Oracle® Java CAPS LDAP Binding Component Tutorial

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Contents

Using the LDAP Binding Component in a Project

The topics in this document provides information about LDAP Binding Component.

What You Need to Know

These topics provide information about the functional behavior of LDAP Binding Component.

What You Need to Do

These topics provides instructions on the following:

Tutorial Overview

This tutorial helps you create a new OpenESB component called LDAP Binding Component. It also shows you how to create a LDAP Binding Component project that accesses a LDAP server. It illustrates how to implement the method for requesting and displaying data from a LDAP server.

This component implements all the required interfaces from the JBI 1.0 specification. The LDAP browser project is an application that holds an implementation of a data provider (for example, LDAPTableDataProvider). In addition to this, the application demonstrates how to pass a request to the server and how to specify the set of attributes to be received from the server.

Tutorial Requirement

The LDAP Binding Component assumes that the following are configured on the target resource.

- Java CAPS
- A JCA container, tested with GlassFish installer
- LDAP Web Browser (used to view the output), such as the Softerra LDAP Browser

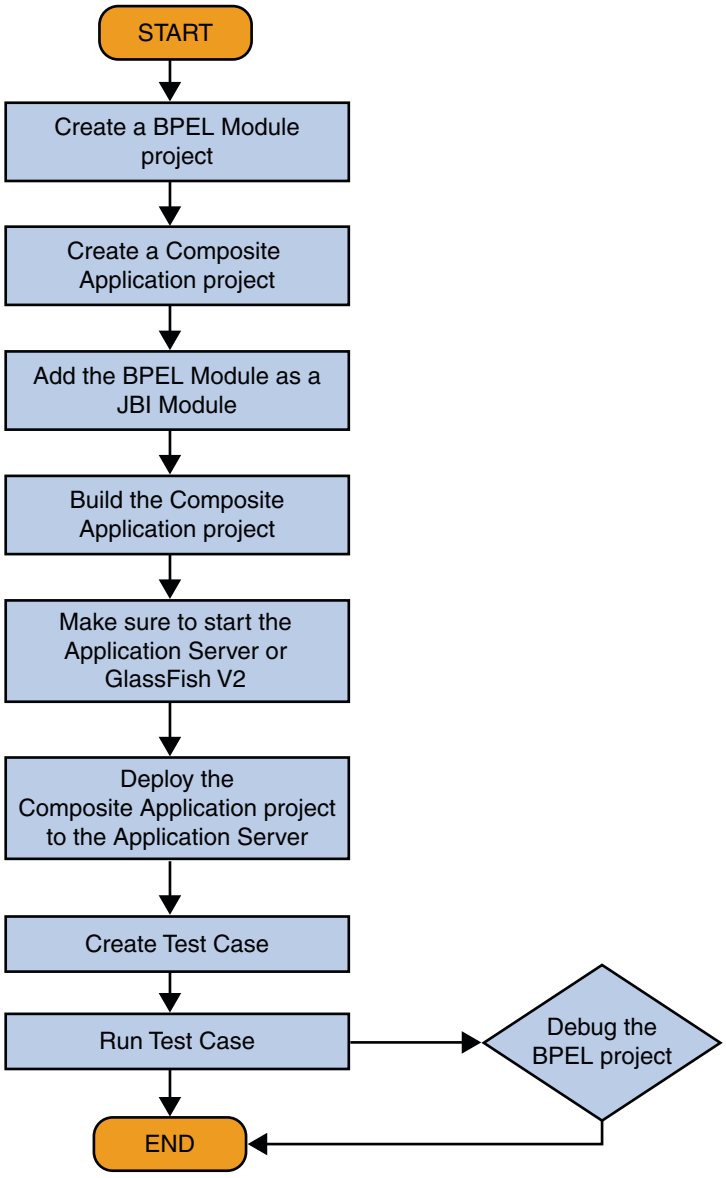
Tutorial Plan

The following steps outline the process for this tutorial:

1. Create a BPEL Module project using the New Project wizard.
2. Create the following WSDL Document for the BPEL Module.
   a. LDAP WSDL
   b. SOAP WSDL

Note – Test Cases are not required for File Binding Component and JMS.

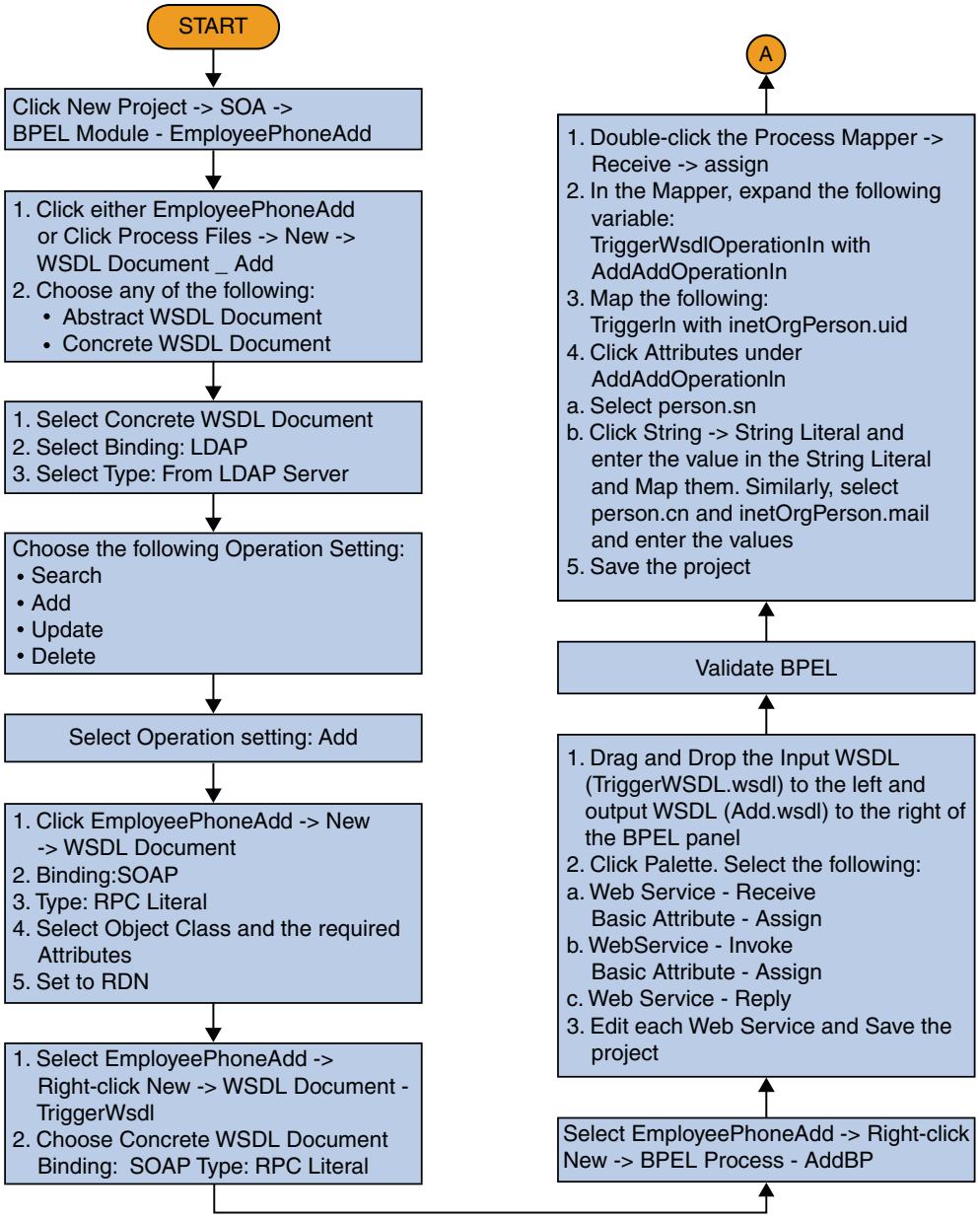
3. Create a Composite Application project.
4. Add the BPEL Module project (*.jar) as a JBI Module to the Composite Application project.
5. Build the Composite Application project. Ensure that the Application Server is started.
6. Deploy the Composite Application project to the Application Server.
7. Create a Test Case.
8. Run the Test Case.
9. (Optional) Debug the BPEL process.
   Debug is invoked when the Test Case fails.



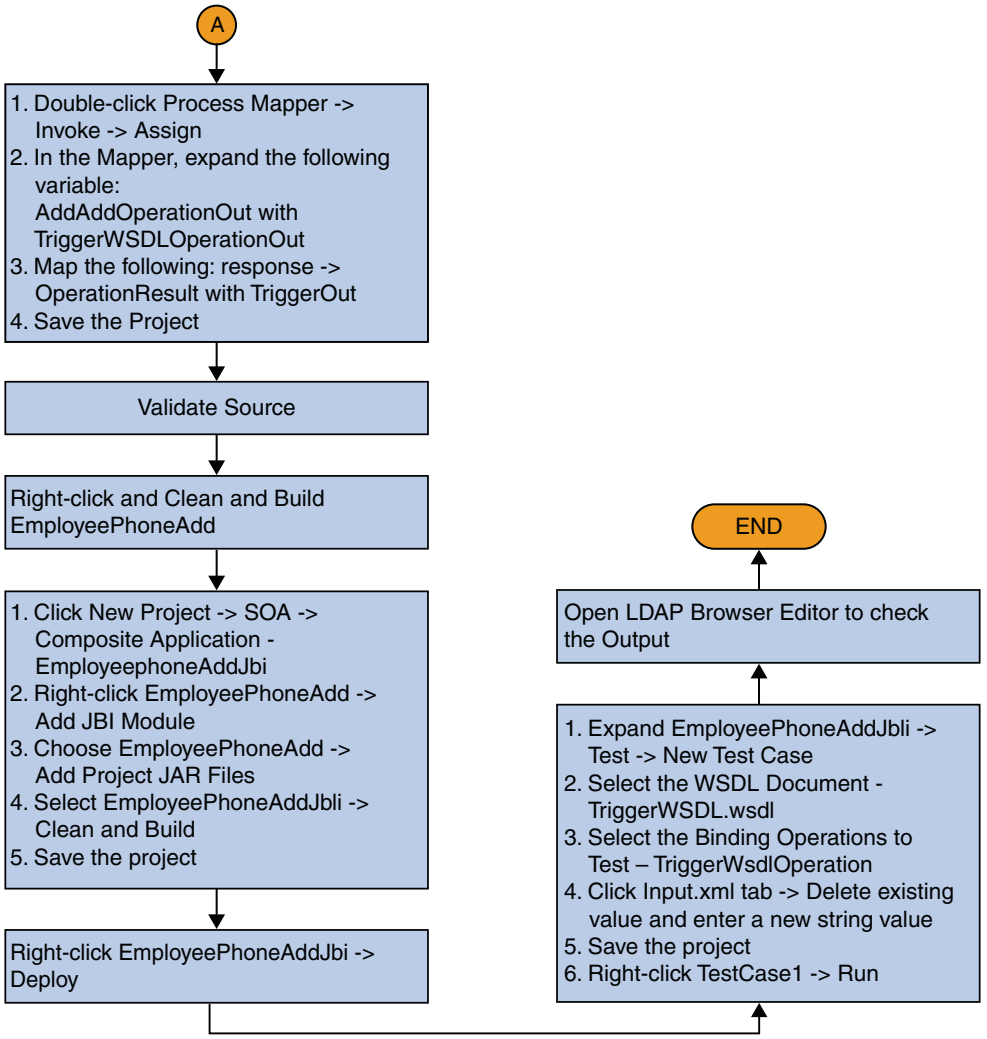
LDAP Binding Component Project in a Nutshell

The following illustration explains the procedure of creating the LDAP BC tutorial project.

Flowchart 1



Flowchart 1 (Continued)



Starting the GlassFish Application Server

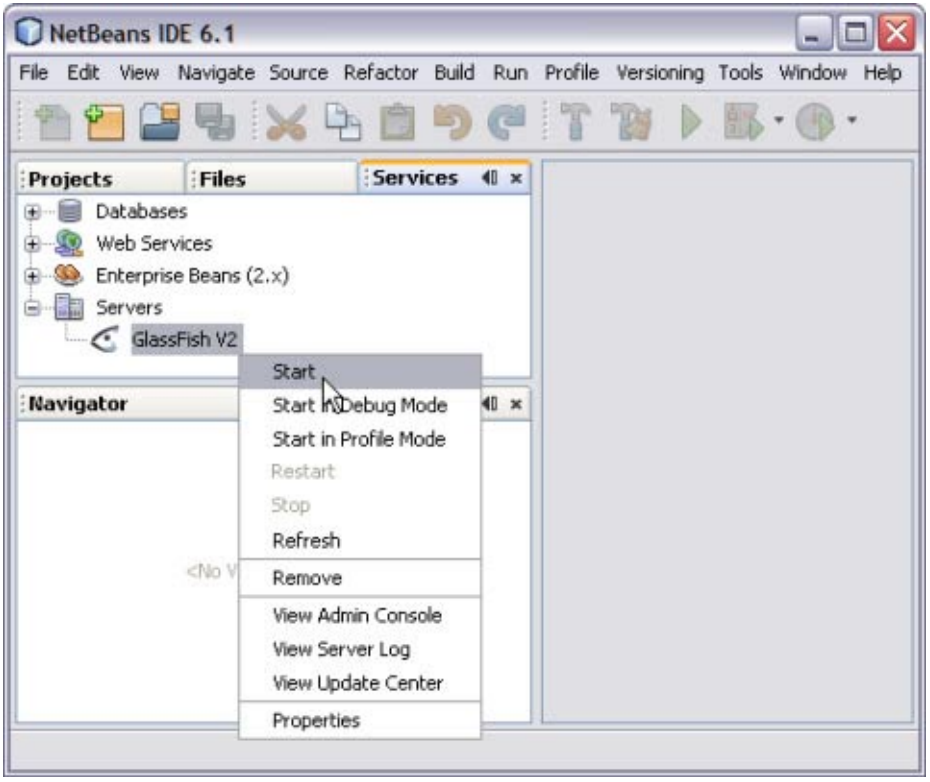
The GlassFish Application Server is installed when Java CAPS is configured. NetBeans starts the Application Server when needed.

▼ To Start the GlassFish Application Server

Before You Begin Choose Window —> Services, if the Services tab is not visible.

1 **Click the Services tab and expand the Servers node.**

2 **Right-click the domain (GlassFish v2.x by default). Select Start.**



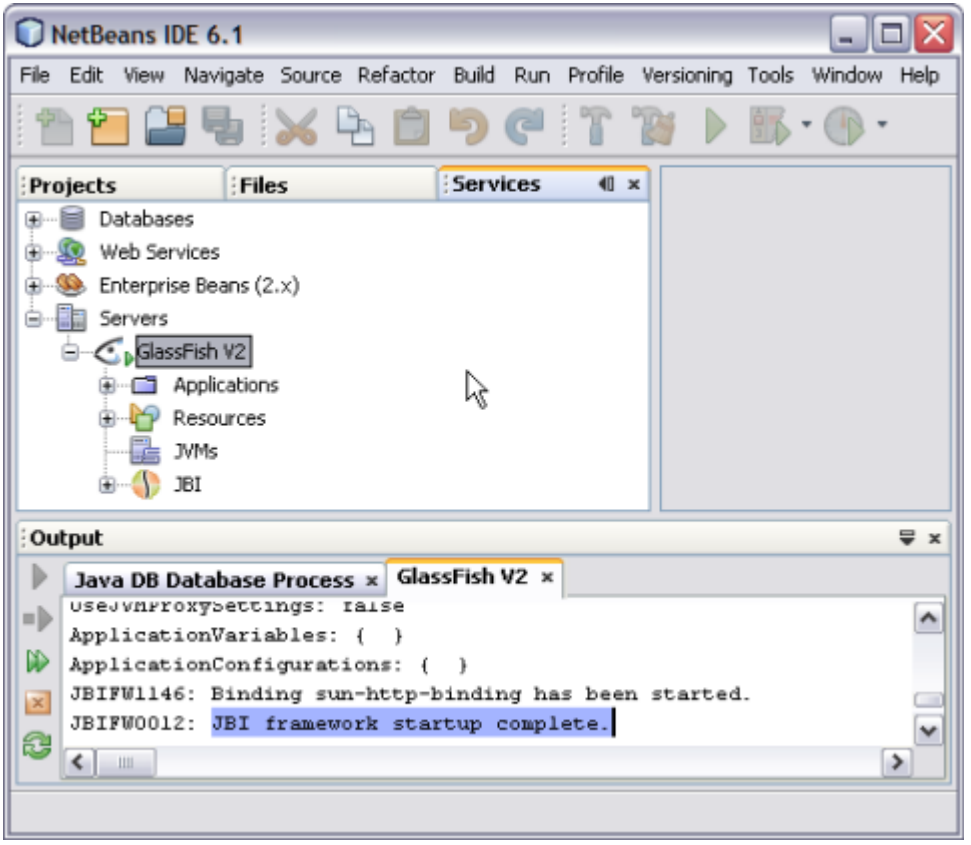
The Output window displays log information generated during the application startup.

Note – Choose Window —> Output —> Output, if the Output window is not visible.

The following message in the Output console window is an indication that the application server is listening.

```
JBI framework  startup complete.
```

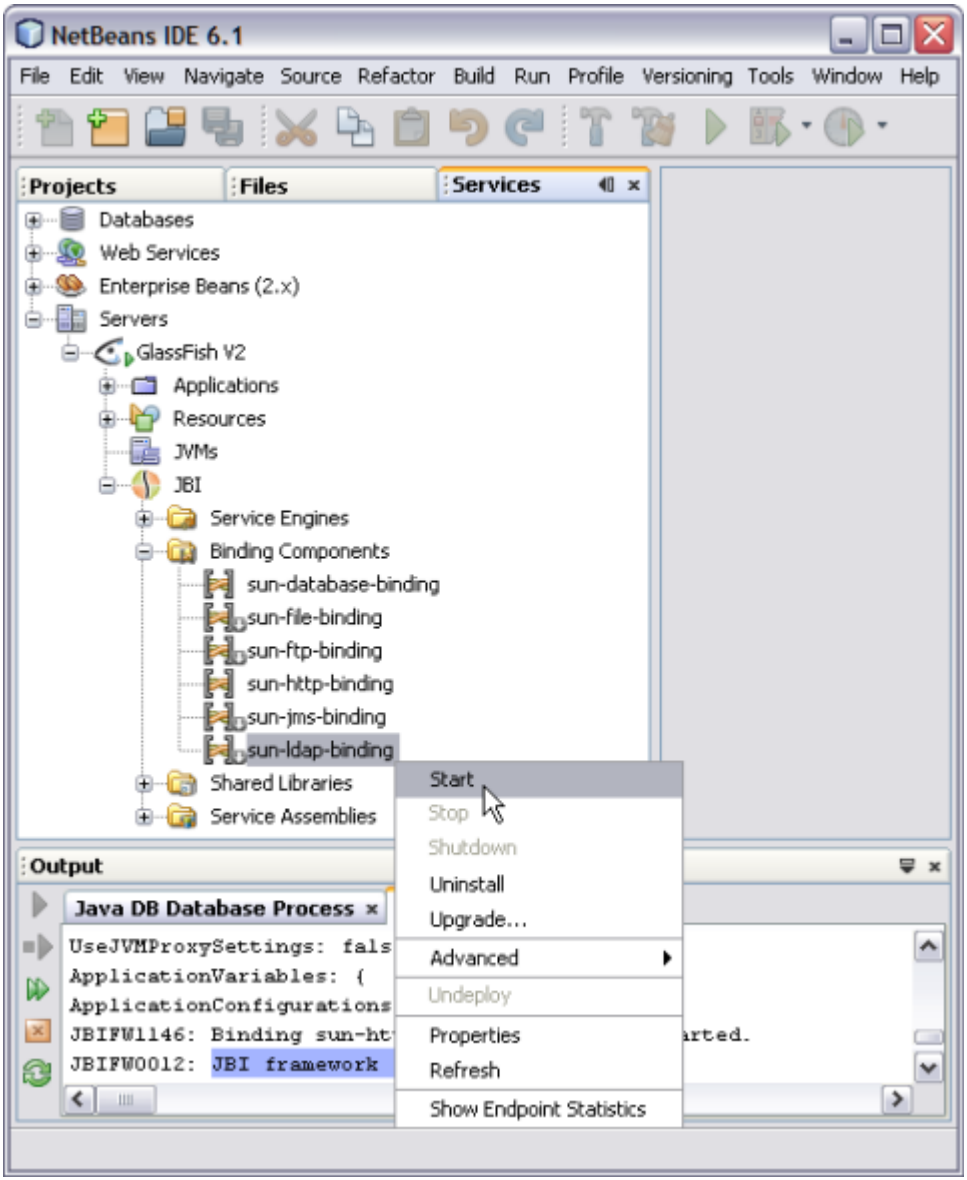
Note – A green arrow badge on the GlassFish Application Server node indicates the server is listening.



▼ To Start the JBI Components

1 **Expand GlassFish —> JBI —> Binding Components.**

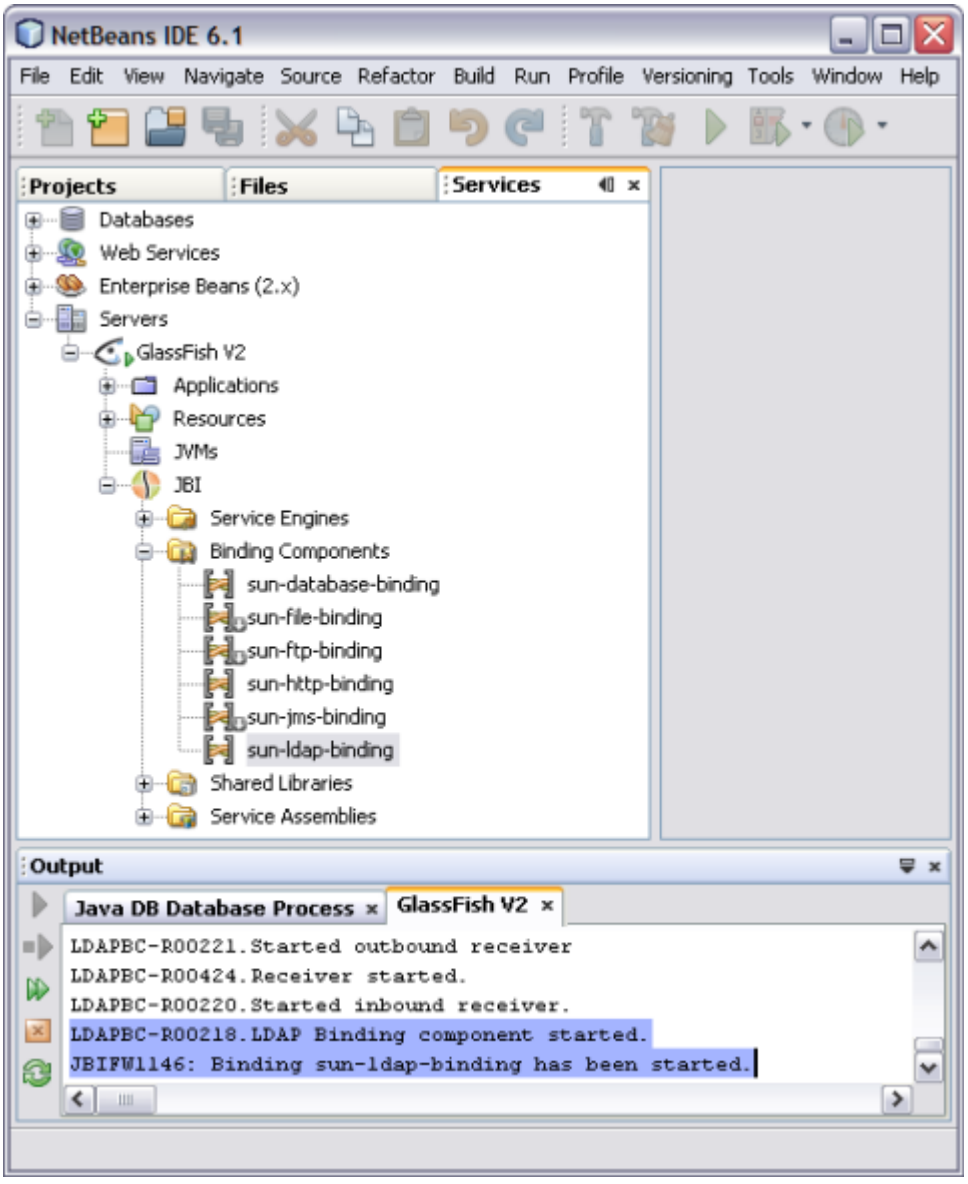
2 **Right-click on sun-ldap-binding. Click Start.**



The action enables sun-ldap-binding.

The Output console displays a confirmation message.

```
Binding sun-ldap-binding has been started.
```



Creating a BPEL Module Project For the Add Feature

In this scenario, an Object Class and an Attribute is added and are identified as Input and Output, respectively.

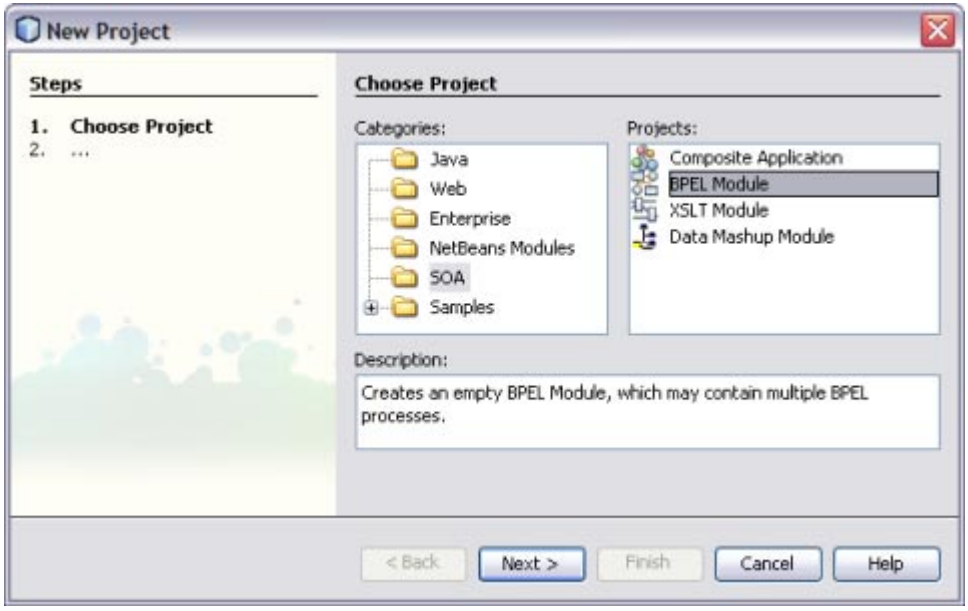
▼ To Create a BPEL Module Project

1 **Choose File —> New Project from the main menu.**

This opens the New Project wizard.

2 **Select the SOA node from the Categories list.**

3 **Select the BPEL Module node from the Projects list.**

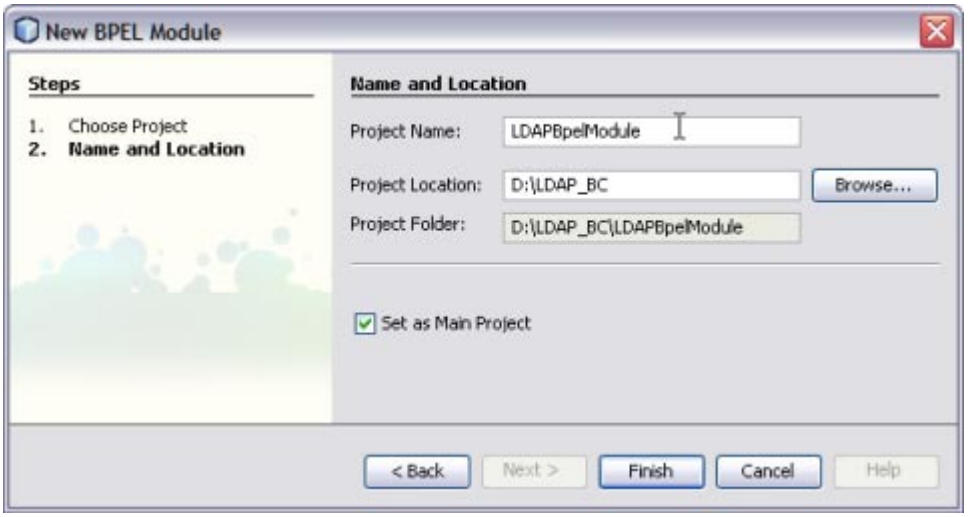


4 **Click Next.**

5 **Type the Project Name in the Project Name field. For this scenario, enter `LDAPBpelModule`.**

6 **Click Browse to navigate to the project location field.**

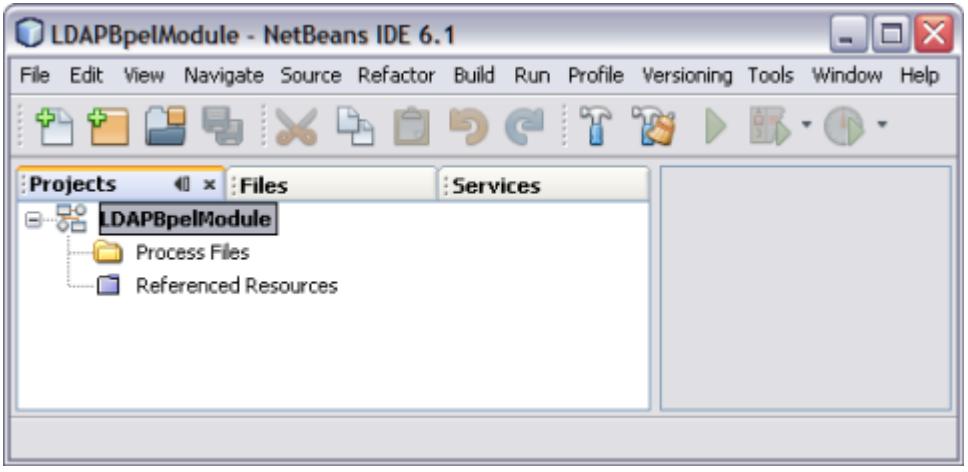
The IDE stores the project files in this folder. This step is optional.



7 **Click Finish.**

A project node for the BPEL module project named LDAPBpelModule is created in the Projects window.

8 **Click Save All.**



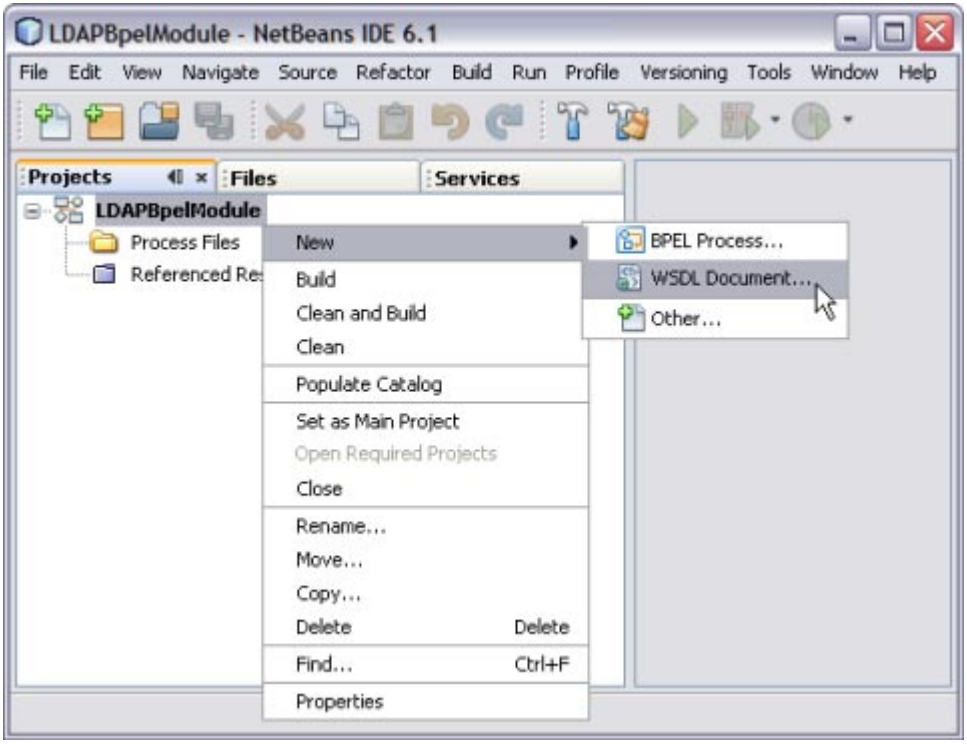
Creating a WSDL Document

In this section, create a WSDL Document in the BPEL Module project using the Add feature. For this example, create `AddWSDL.wsdl` in the BPEL project. Use the Partner view of the WSDL editor to configure the components of the WSDL Document.

▼ To Create a WSDL Document: Add Operation

1 **Expand the BPEL Module project node in the Projects tab.**

2 **Right-click the project node or Process Files node. Select New —> WSDL Document.**



This opens the New WSDL Document wizard.

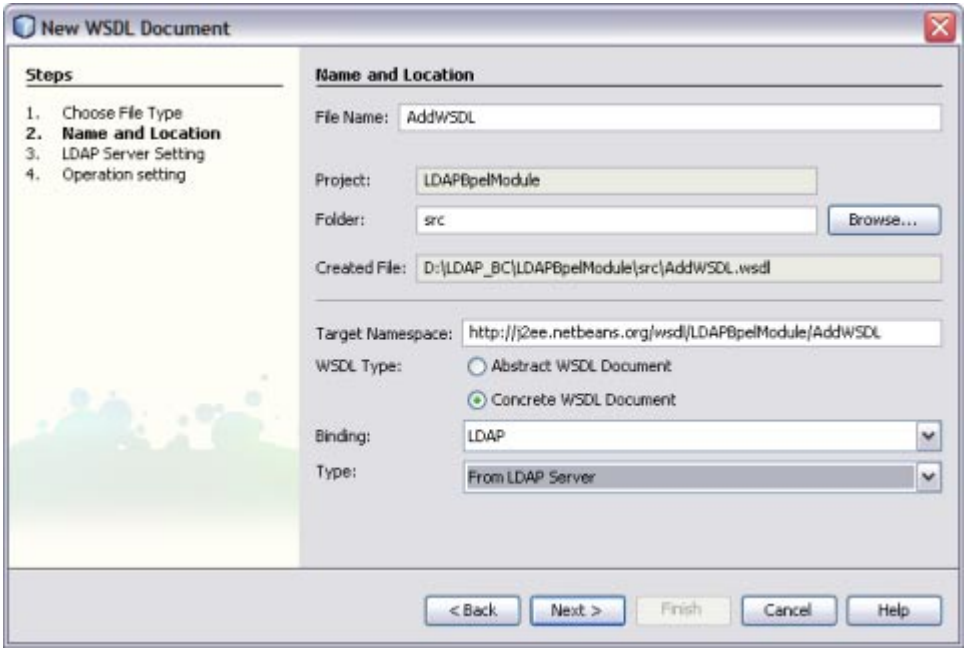
3 **In the File Name field, enter `AddWSDL.wsdl`.**

4 **Select Concrete WSDL Document.**

5 **In the Binding field, select LDAP from the drop-down list.**

6 Choose any one of the following Types from the drop-down list.

- From LDAP Server
- From LDIF File



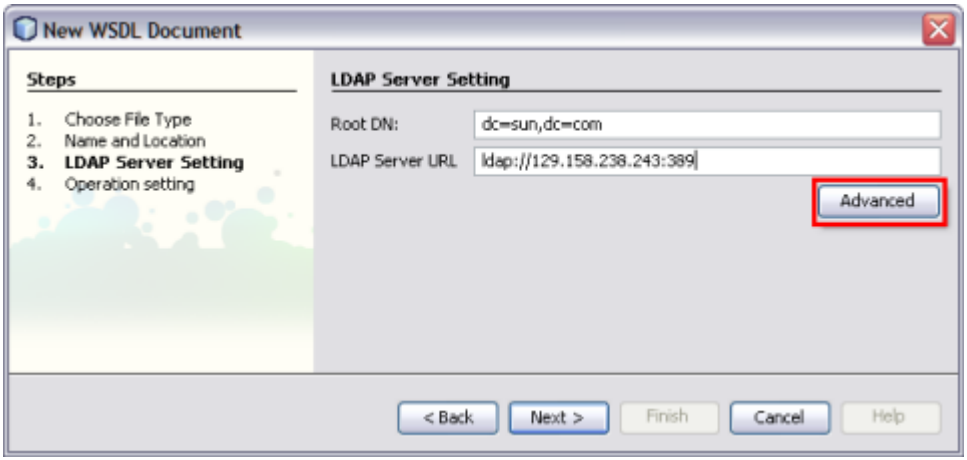
7 Click Next.

8 Enter the Root DN and LDAP Server URL.

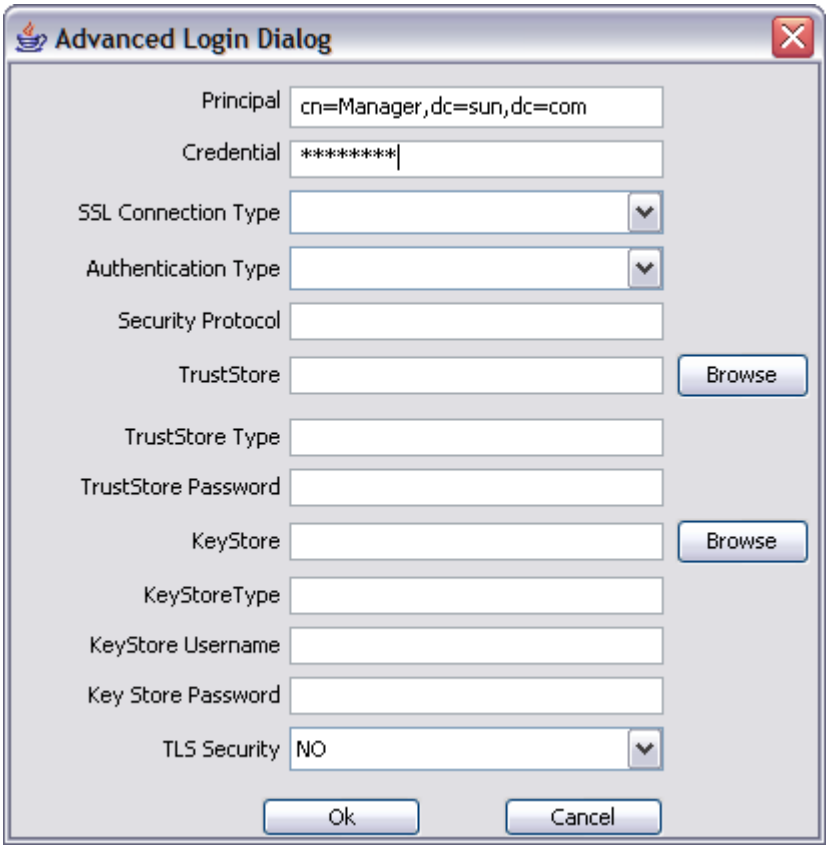
DN is the base object entry search relative to.

In the figure below, the Root DN is **dc=sun,dc=com**. The format for the LDAP Server URL is `ldap://`*hostname*`:`*port* .

9 Click Advanced.



The Advanced Login dialog box appears.



Field	Description	Required Value
Principal	The principal needed when using an authentication mechanism other than the anonymous login (authentication = none).	The fully qualified Distinguished Name (DN) of the user. For example: cn=Administrator, cn=Users,dc=stc,dc=com
Credentials	The credentials needed when using an authentication mechanism other than anonymous login (authentication = none).	The appropriate credentials, such as valid password.

SSL Connection Type	The SSL connection type.	Select None, Enable SSL, or TLS On Demand. Enter the desired value as follows: ■ **None**: No SSL, simple plain connection. ■ **Enable SSL**: SSL is enabled. All communication to the LDAP server uses a secure communication channel. **Note –** If you are using the Enable SSL option, the ProviderURL property must point to a secure LDAP port.
Authentication	The method authentication (none or simple). Select the desired authentication as follows: ■ **None**: No authentication, that is, an anonymous login. If you use this setting, ensure that the LDAP server supports anonymous logins if you are using this setting. ■ **Simple**: Authentication is based on a user name and password. Provide the user name and password in the appropriate fields (Use the Principal and Credentials).	Select **None** or **Simple**. The default is **None**.
TrustStore	The default TrustStore. The TrustStore is used for CA certificate management when establishing SSL connections. Click **Browse** to select the trust store file.	A valid TrustStore file. There is no default value.
TrustStore Type	The TrustStore type of the TrustStore used for CA certificate management while establishing an SSL connection. If the TrustStore type is not specified, the application uses JKS as the default TrustStore Type.	A valid TrustStore type.
TrustStore Password	The default TrustStore password. The password is meant to access the TrustStore used for CA certificate management while establishing SSL connections.	A valid TrustStore password. There is no default value.

KeyStore	The default KeyStore file. The keystore is used for key/certificate management while establishing SSL connections. Click **Browse** to select the key store file.	A valid package location. There is no default value.
KeyStore Type	The default KeyStore type. The keystore type is used for key/certificate management when establishing SSL connections. If the KeyStore type is not specified, the default KeyStore type is used.	A valid KeyStore type.
KeyStore Username	The user name for accessing the keystore used for key/certificate management when establishing SSL connections.	A valid KeyStore user name.
KeyStore Password	The default KeyStore password. The password is used to access the KeyStore used for key/certificate management when establishing SSL connections; there is no default.	A valid KeyStore password. There is no default value.
TLS Security	An indicator of whether TLS security is enabled.	The default value is NO

10 Click OK to close the Advanced Login Dialog.

11 Click Next.

The New WSDL Document — Operation Setting dialog box opens.

Note – You can perform any one of following operations.

- Search
- Add
- Update
- Delete

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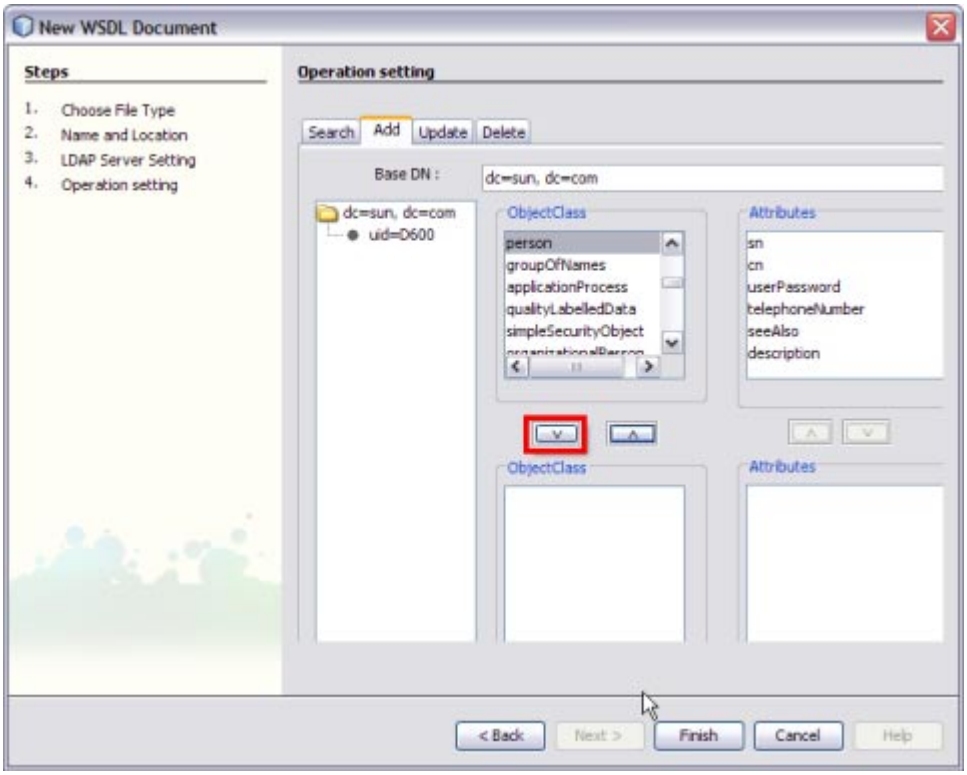
12 Click the Add tab.



Select the following Object Class:

a. person

b. inetOrgPerson

Click the down arrow to move them from the top-left pane to the bottom-left pane.

Note – The attributes related to the schema are selected.

Each schema is made up of a set of attributes.

For example,

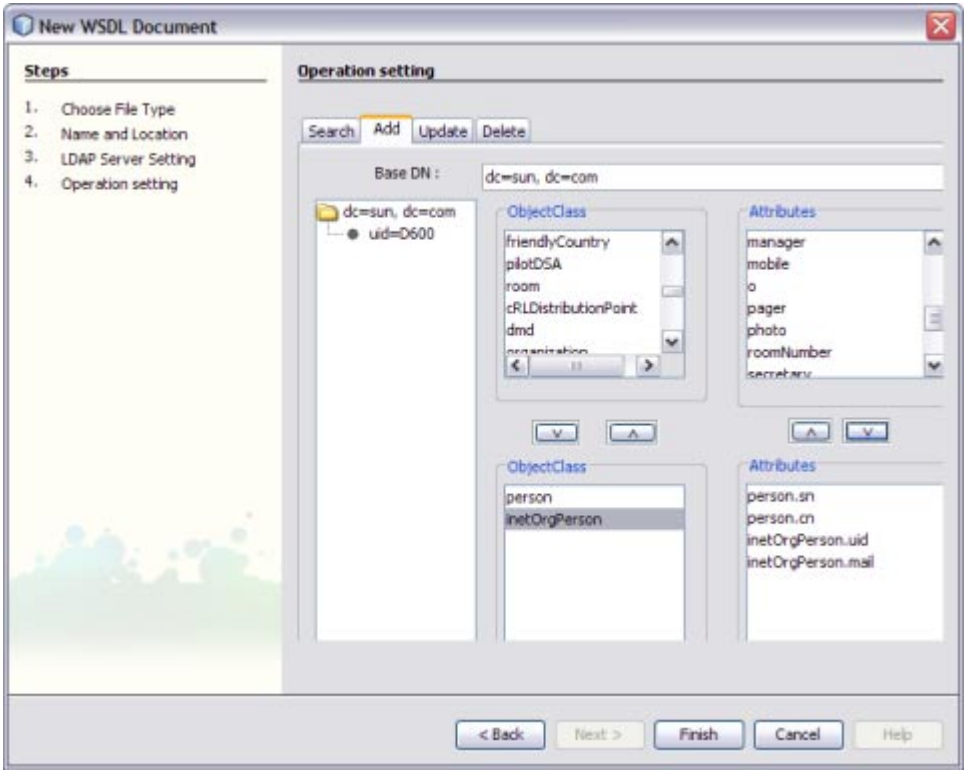
- **person** — person.sn and person.cn
- **inetOrgPerson** — inetOrgPerson.uid and inetOrgPerson.mail

  They are represented as follows:

schemaname.Attributename

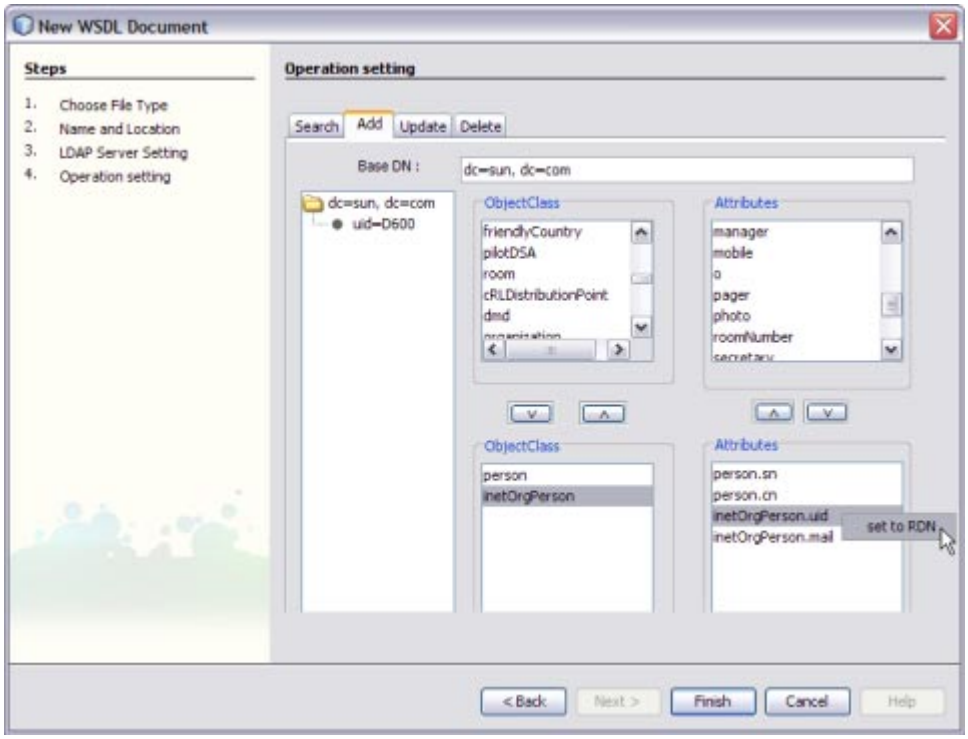
a. sn — Surname
b. cn — Common Name
c. uid — Unique id
d. mail — Email

Note – Use the down arrow to move the selected Object Class or Attributes from the top-left pane to the bottom-left pane. Use this to also move from the top-right pane to the bottom-right pane.



13 Set any one of the Attributes to Relative Distinguished Name (RDN).

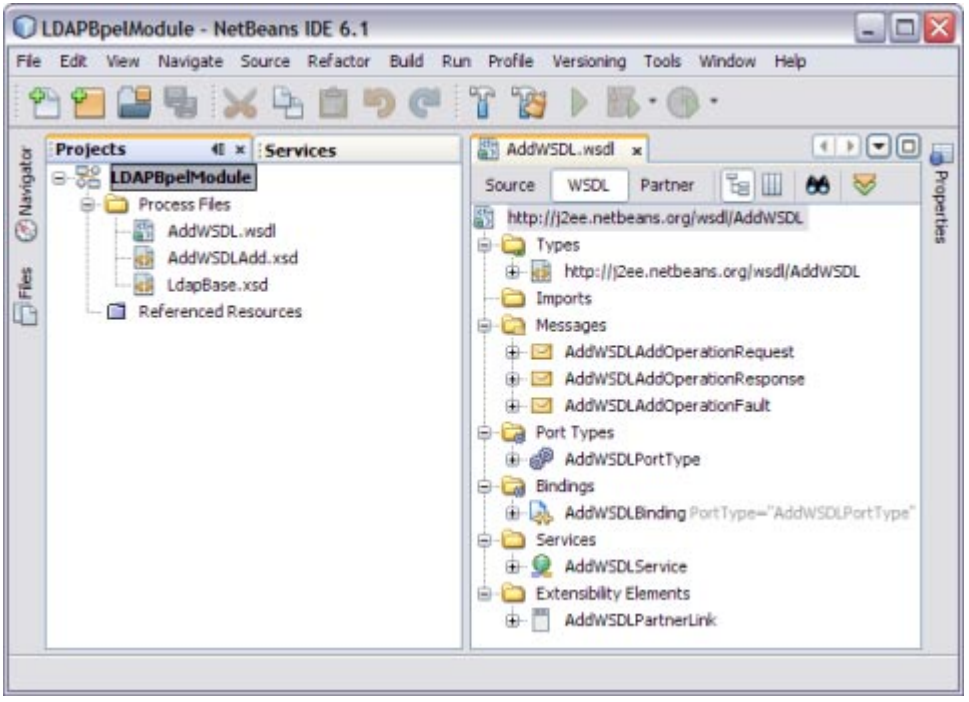
A Relative Distinguished Name (RDN) is a component of the distinguished name, for example, `cn=John Doe, ou=People` is a RDN relative to the root RDN `dc=sun.com`.



For example, set `inetOrgPerson.uid` = `RDN`.

14 **Click Finish.**

The illustration is as shown.



A tree structure is formed as follows:

a. **AddWSDL.wsdl — Target WSDL**

b. **AddWSDLAdd.xsd**

c. **LdapBase.xsd**

Create a WSDL Document For Type: SOAP

In this section, add a WSDL document named `TriggerWsdl.wsdl` to the BPEL Module project. The Partner view of the WSDL editor to configure the components of the WSDL document.

▼ To Create a WSDL Document: SOAP

1. **Expand the project node in the Projects window. Right-click the BPEL Module node or Process Files node. Choose New —> WSDL Document.**

   This opens the New WSDL Document wizard.

2. **In the File Name field, enter `TriggerWSDL.wsdl`.**

3. **Select Concrete WSDL Document.**

   - **binding**

     Defines the message format and protocol details for a port type.

   - **service**

     Indicates the binding type to be used and the method to access the database resource.

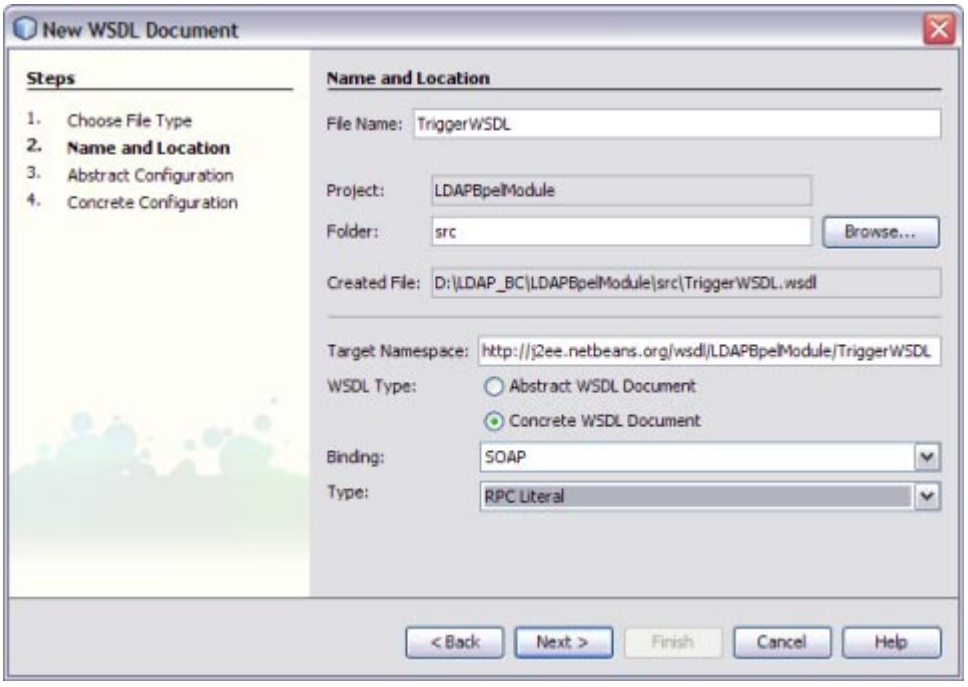
4. **Choose the Binding — SOAP from the drop-down list.**

5. **Select any one of the following Type.**

   If you select the SOAP binding type, then select any one of the following binding subtypes:

   - **RPC Literal**: The operations are RPC oriented (that is, messages contain parameters and return values). Each message part uses an element or type attribute to refer to a concrete schema definition.
   - **Document Literal**: The operations are document oriented (that is, messages contain one or more documents). Each message part uses an element or type attribute to refer to a concrete schema definition.
   - **RPC Encoded**: The operations are RPC oriented (that is, messages contain parameters and return values). Each message part uses a type attribute to refer to an abstract type.

6 **Choose Type — RPC Literal from the drop-down list.**



7 **Click Next.**

This action displays the New WSDL Document dialog box.

8 **Choose the Operation Type from the drop-down list.**

The WSDL Editor is used to create, edit, and delete port types.

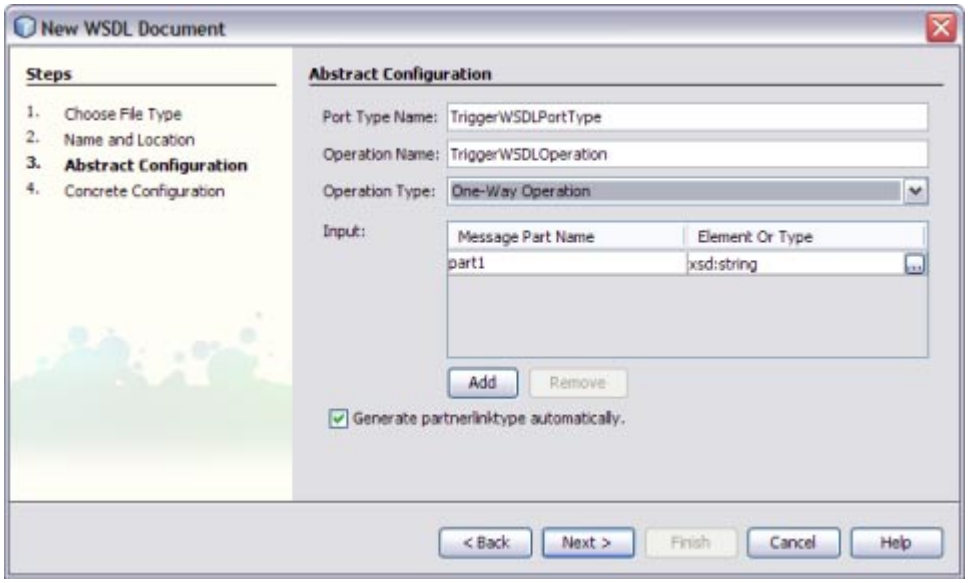
The WSDL Editor supports the following operation types. There are two Operation Types.

- **Request-Response Operation**: The operation receives a message as input, and sends a message as output.
- **One-Way Operation**: The operation receives a message as input.

Each message contains one or more logical parts. Specify the name and the type of content for each part.

If you change the name of a port type or operation, then the WSDL Editor renames all occurrences in the same file. Right-click the component node to rename all occurrences in the associated XSD, WSDL, and BPEL files. Choose Refactor —> Rename.

When Operation Type is One-Way Operation. The following illustration demonstrates when the operation type is chosen as One-Way Operation.



Note –

a. Click the ellipses button to select an Element or Type.

b. Enter both the Input and Output Message Part Names for the Request-Response Operation.

   The default value of the Input and Output Message Part Names is set as xsd:string.

c. Click Add to another Message Part Name as the Input.

   This selects the checkbox **Generate partnerlinktype automatically**.

d. Click Remove to delete the Message Part Name as the Input.

---

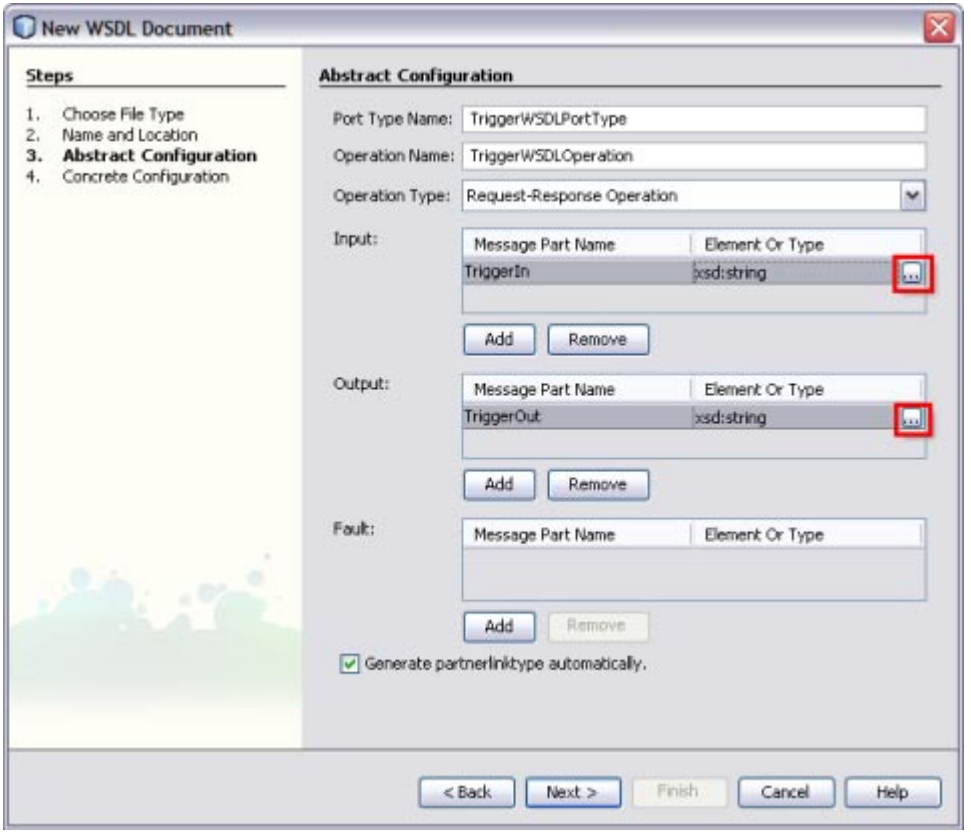
9 Select Operation Type: Request-Response Operation from the drop-down list.

Note – Port Type Name and **Operation Name** are populated from the previous wizard.

---

10 Click the ellipses to select the Element or Type.

Enter a Message Part Name for both Input and Output — TriggerIn and TriggerOut, respectively.



This action displays the Select Element or Type dialog box.

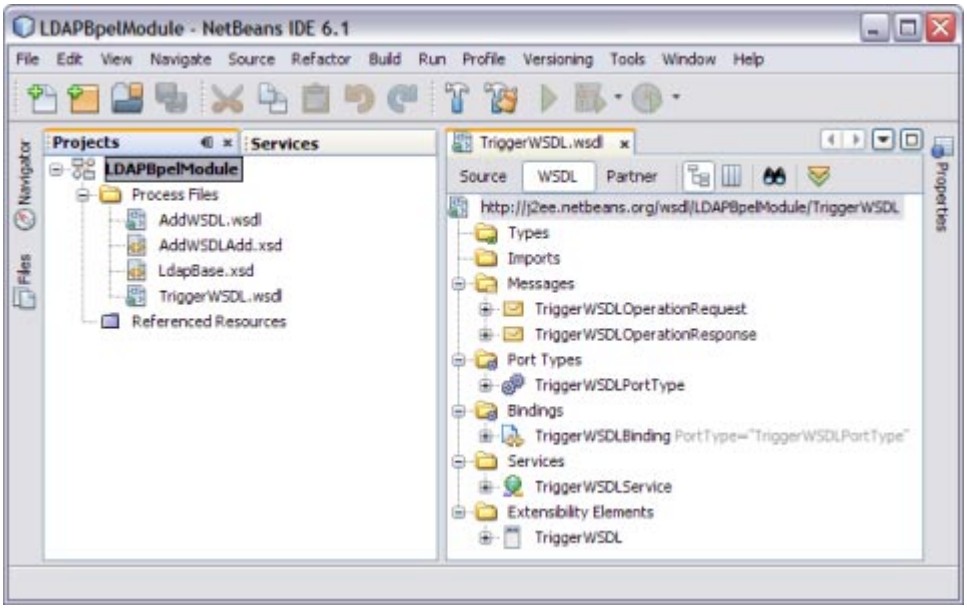
Retain the same values for Element or Type both for Input and Output as xsd:string.

11 Click Next.

The New WSDL Document — Concrete Configuration window is displayed.

Verify the Concrete Configuration.

12 **Click Finish.**



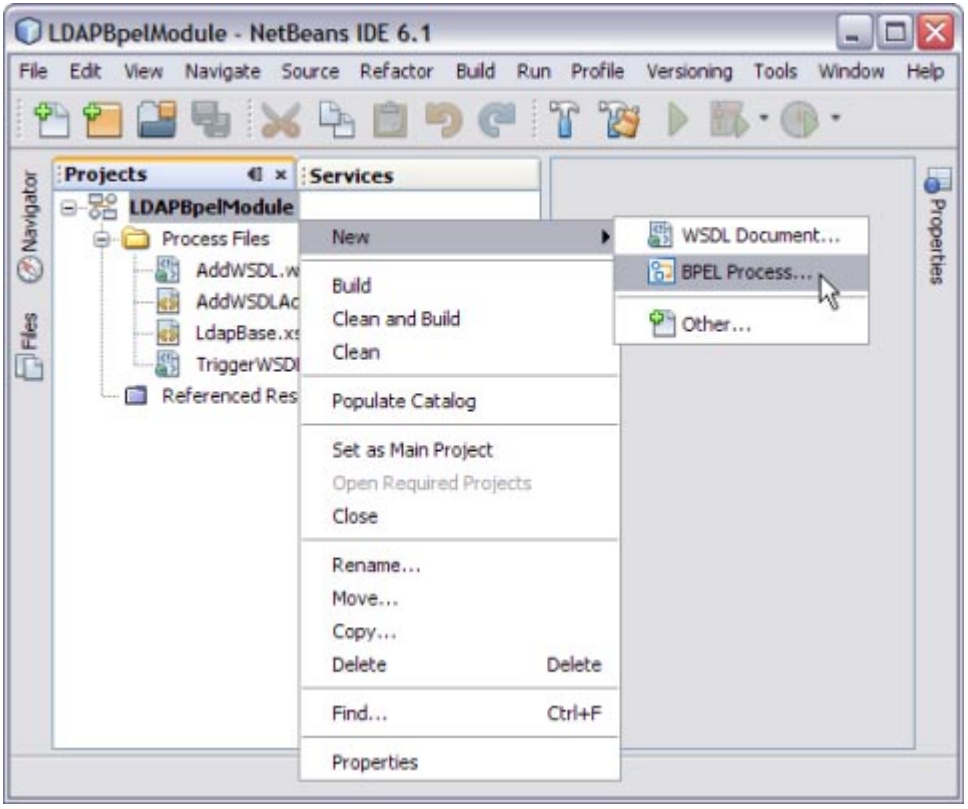
Creating a BPEL Process

In this section, add a BPEL process file named `AddBPEL.bpel`. You will also learn to add a partner link and associate three activities to the BPEL process file. Create a BPEL Module project to orchestrate.

▼ To Create a BPEL Process

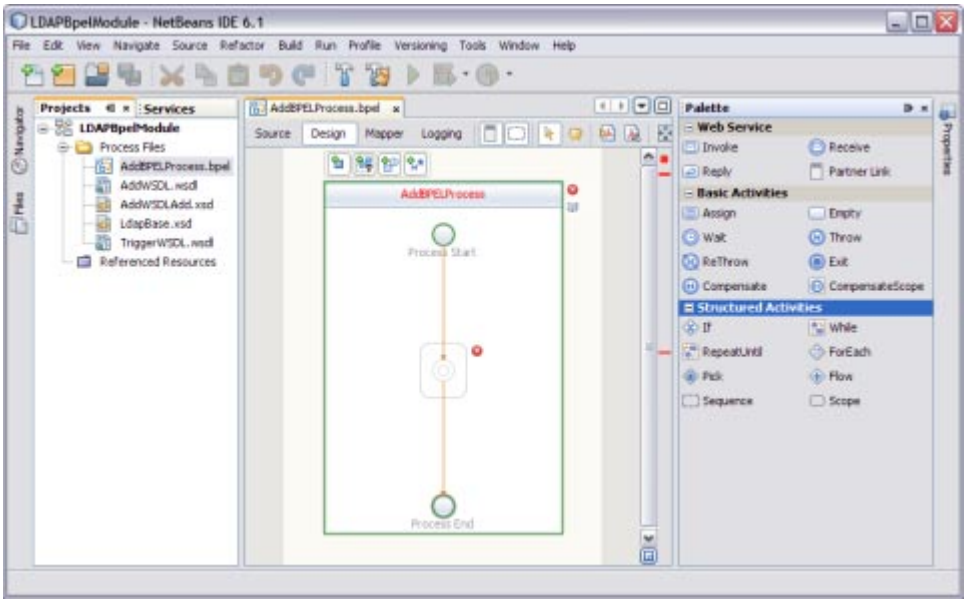
1 **Expand the project node in the Projects window. Right-click the node or Process Files node. Choose New —> BPEL Process.**

This opens the New BPEL Process wizard.



2 **In the File Name field, enter AddBPELProcess.**

3 Click Finish.



Note –

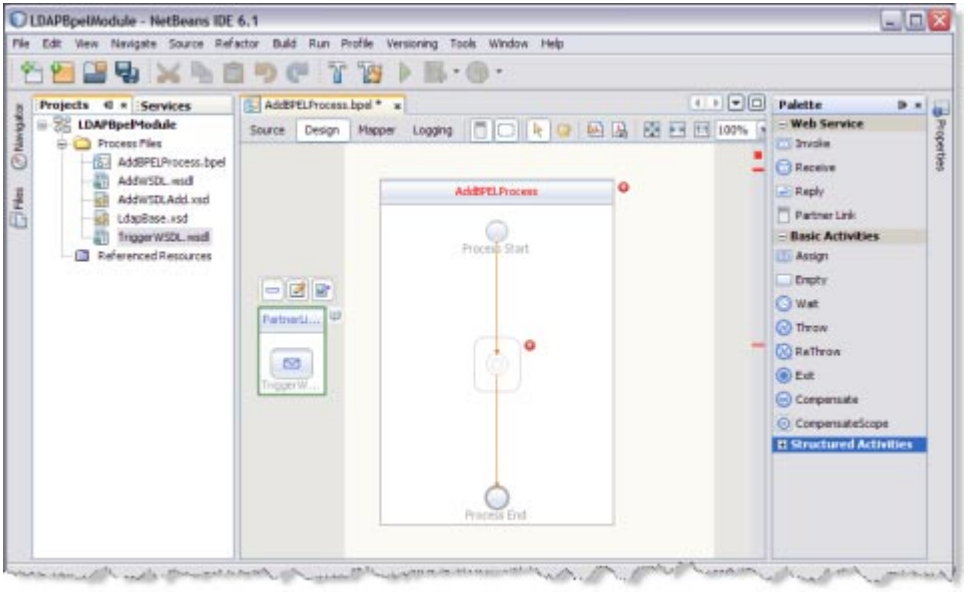
- In the Projects window, the IDE adds a `AddBPELProcess.bpel` node under the Process Files node.
- The `AddBPELProcess.bpel` file is open in the BPEL Designer.
- The Properties window is open.

  Choose Window —> Properties if the Properties window is not visible.
- The Navigator window shows the BPEL Logical View of the BPEL Process document.

▼ To Add a Partner Link

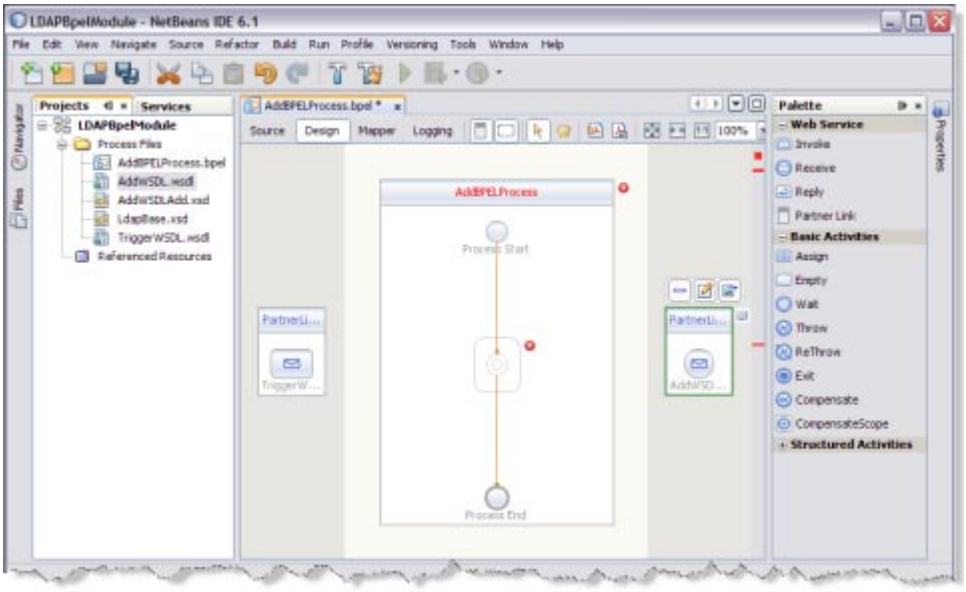
1 **Select the TriggerWSDL.wsdl Partner Link from the Projects tab. Drag and drop it to the left panel of the design area.**

This is the Input WSDL.



2 **Select the AddWSDL.wsdl Partner Link from the Projects tab. Drag and drop it to the right panel of the design area.**

This is the Output WSDL.



▼ To Add a Web Service and Basic Activities

Drag and Drop the following Web Services:

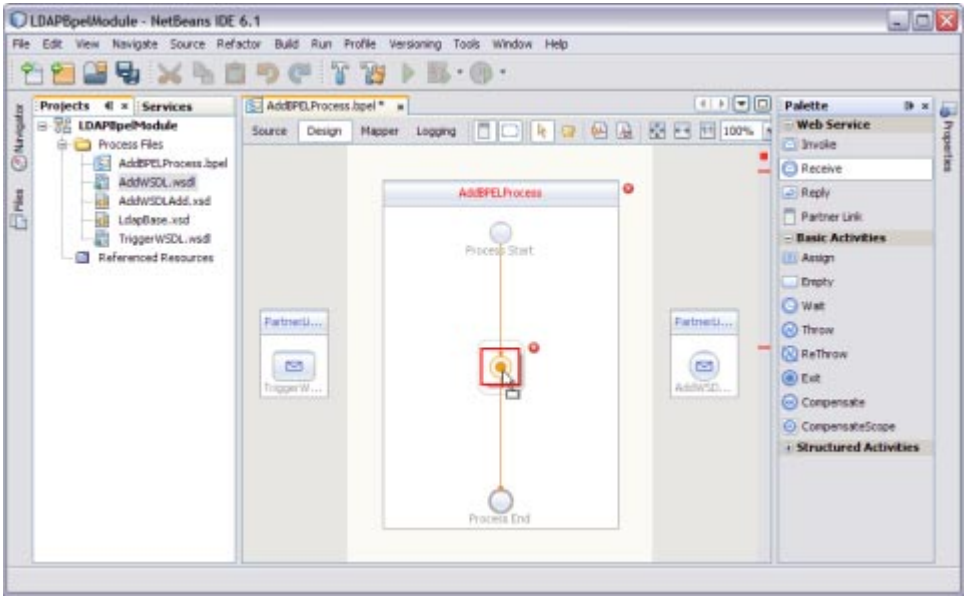
- Receive
- Invoke
- Reply

Drag and Drop the Basic Activities: Assign.

1 **Select Receive in the Web Service section of the Palette.**

2 **Drag the selection to the box in the design area between the Process Start and the Process End activities.**

The IDE provides the visual clues to show an appropriate location to drop the selection.



This action places a Web Service Receive called Receive1 in the Design view.

3 **Select the Basic Activities. Choose Assign in the Basic Activities section of the Palette.**

This action places a Assign activity called Assign1 in the Design view.

4 **Drag the selection to the AddBpelProcess box in the design area, between the Process Start and the Process End activities.**

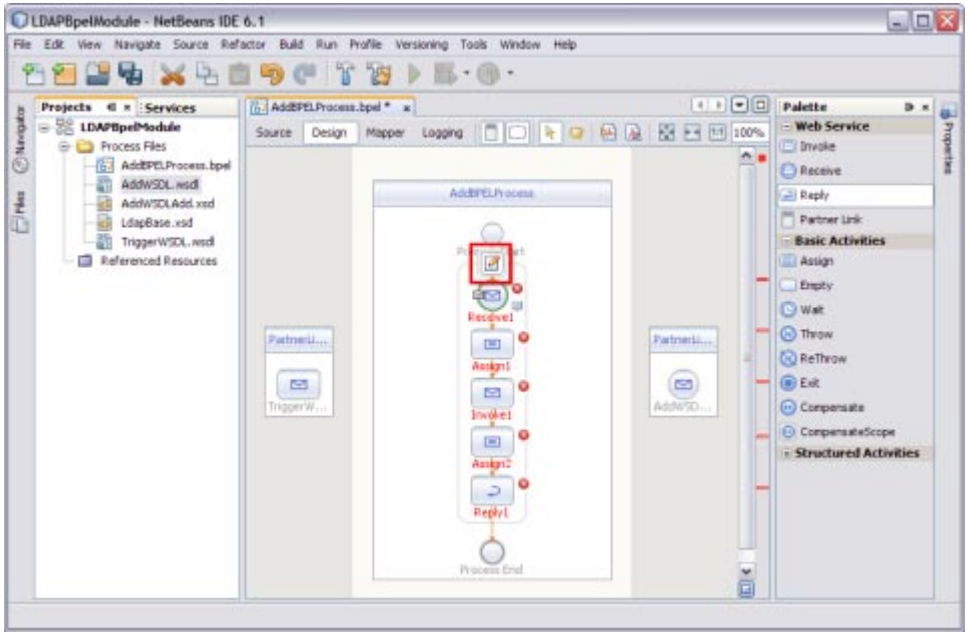
Note – Repeat steps 1 through 4 to select Invoke1, Assign2, and Reply1.

Choose the following:

- Select the Web Service: Invoke and Basic Activities: Assign.
- Select the Web Service: Reply.

The icon symbolizes that the Web Services can be edited.

Note – In the diagram, a red cross next to an element means that the element has not passed validation and the output contains errors. Edit each Sequence to pass validation.



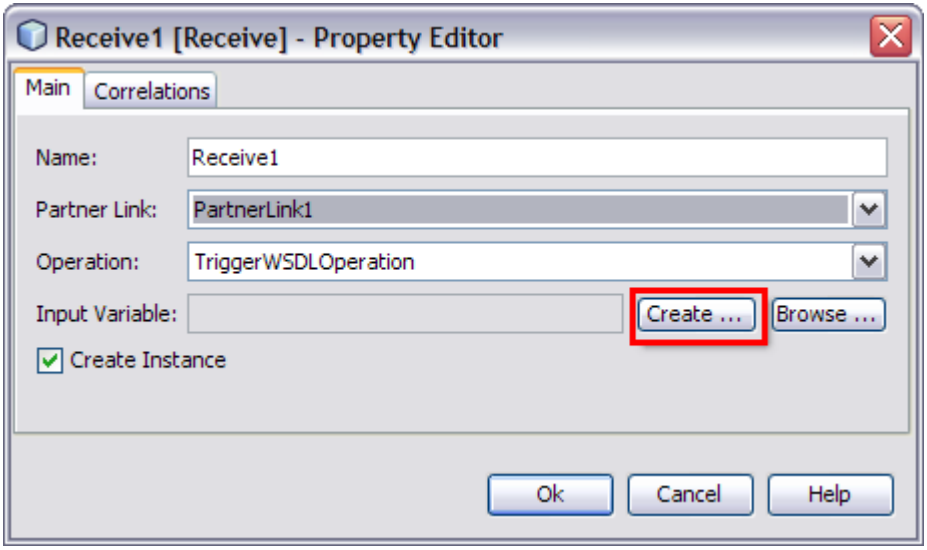
▼ To Edit the Web Service: Receive1

1 **Click Web Service — Receive1 and click Edit.**

This opens the Receive1 [Receive] - Property Editor.

2 **Select the properties of this service from the Main tab. Select PartnerLink1.**

The Operation drop-down list refreshes to display TriggerWSDLOperation.



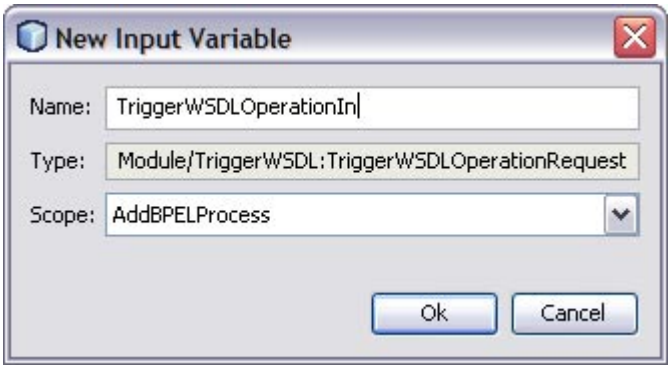
3 **Create a new input variable.**

Perform the following:

- Click the Create button next to the Input Variable field.

  This opens the New Input Variable dialog box.
- The Name, Type, and Scope variable fields are refreshed with their default values.

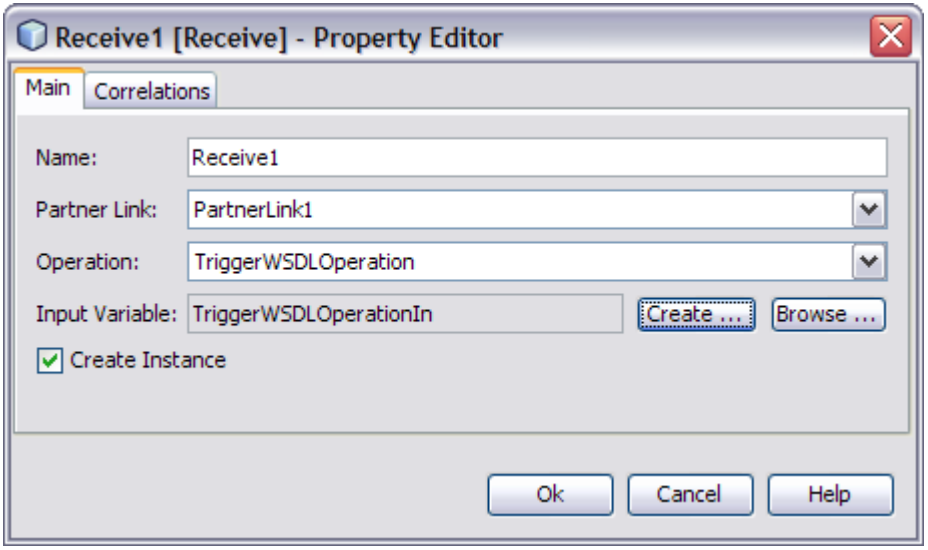
  Change the value in the Name field.
- Click OK.



Note –

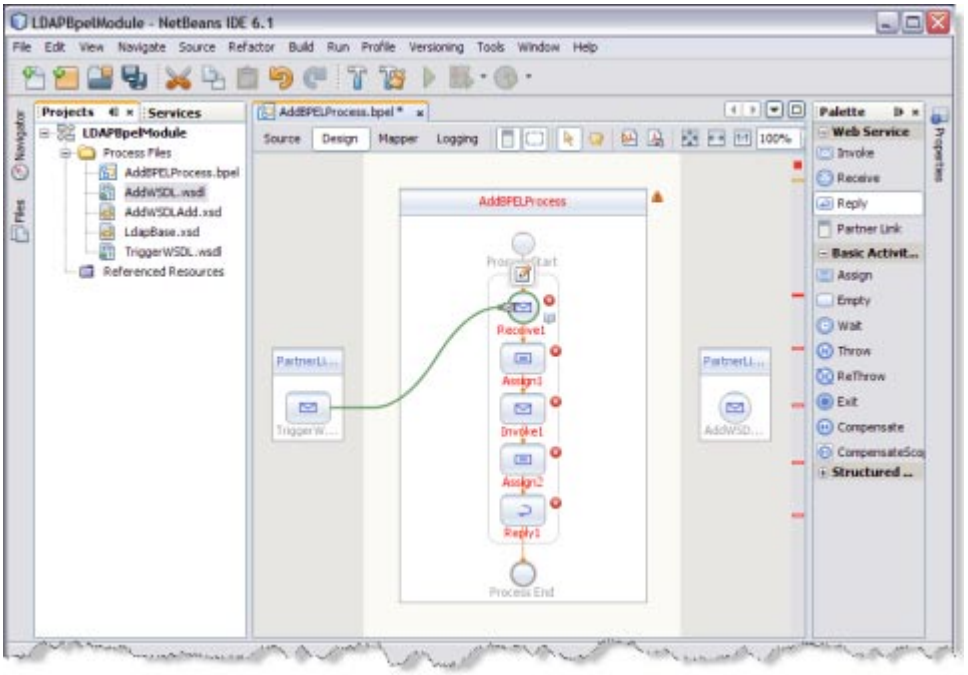
- All the fields are populated with the assigned values.

  The Input Variable is TriggerWSDLOperationIn
- Create Instance check box is checked, by default.



4 **Click OK to close the Receive1 [Receive] - Property Editor.**

5 Save the project.



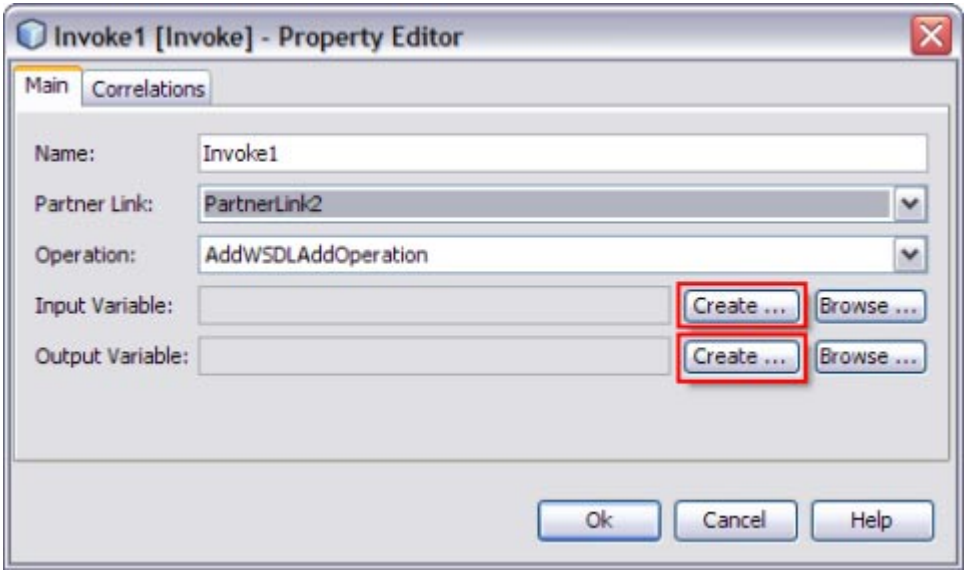
▼ To Edit the Web Service: Invoke1

1 **Click Web Service — Invoke1 and click Edit.**

This opens the Invoke1 [Invoke] - Property Editor.

2 **Select the properties from the Main tab. Select PartnerLink2 from the drop-down list.**

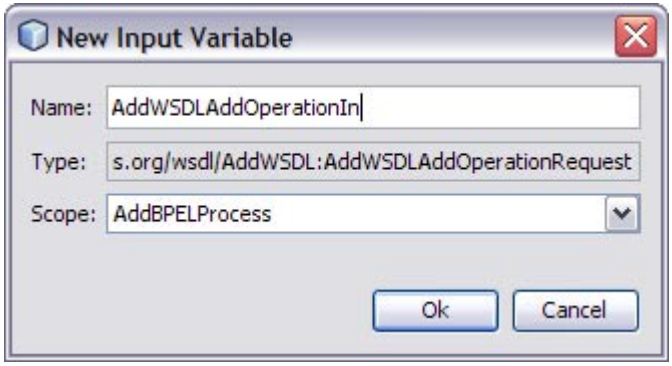
The Operation drop-down list refreshes to display AddWSDLAddOperation.



3 **Follow these steps to create a new input and an output variable.**

a. **Click the Create button next to the Input Variable field.**

This opens the New Input Variable dialog box.



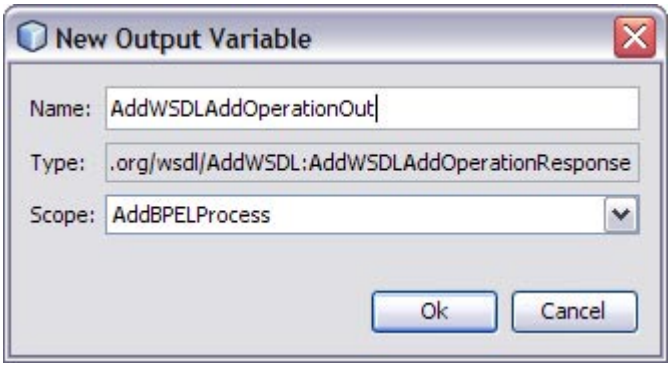
The Name, Type, and Scope variable fields are refreshed with their default values.

You can also change the value in the Name field.

b. Click OK to close the New Input Variable dialog box.

c. Click the Create button next to the Output Variable field.

This opens the New Output Variable dialog box.



The Name, Type, and Scope variable fields are refreshed with their default values.

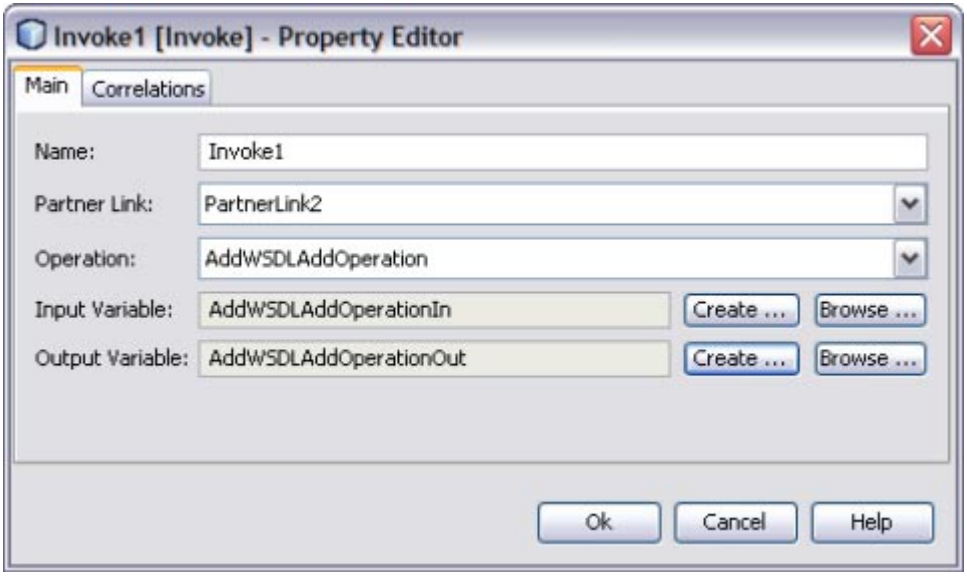
You can also change the value in the Name field.

d. Click OK to close the New Output Variable dialog box.

Note – All the fields are populated with the assigned values.

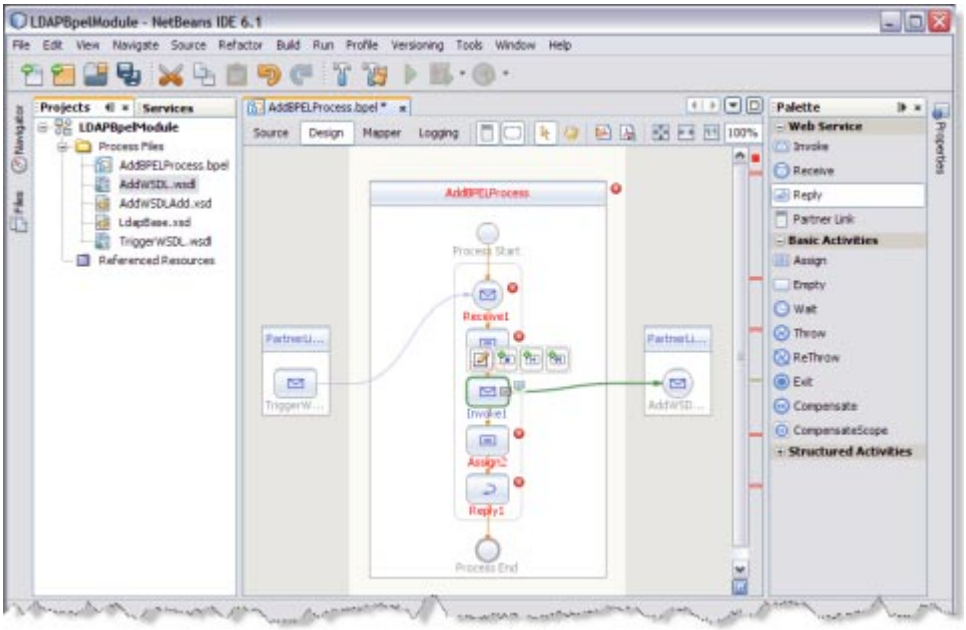
Select the following Variables:

- **Input Variable**: AddWSDLAddOperationIn
- **Output Variable**: AddWSDLAddOperationOut



4 Click OK to close the Invoke1 [Invoke] - Property Editor.

5 Save the project.



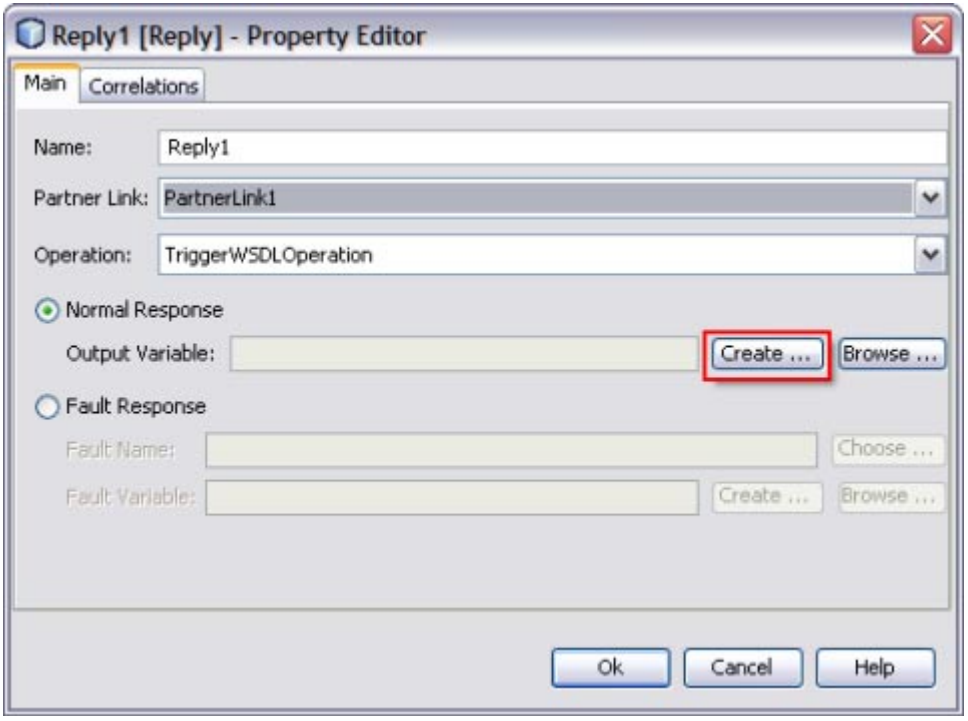
▼ To Edit the Web Service: Reply1

1 **Click Web Service: Reply1. Click Edit.**

This opens the Reply1 [Reply] - Property Editor.

2 **Select the properties from the Main tab. Select PartnerLink1 from the drop-down list.**

The Operation drop-down list refreshes to display TriggerWSDLOperation.

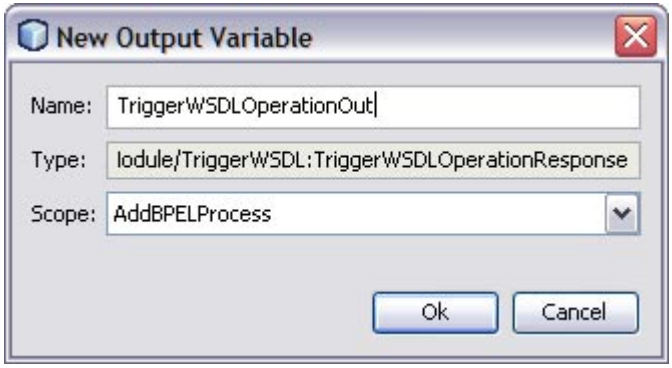


3 **Follow the steps to create a New Output Variable.**

a. **Make sure to select the Normal Response radio button.**

b. Click the Create button next to the Output Variable field.

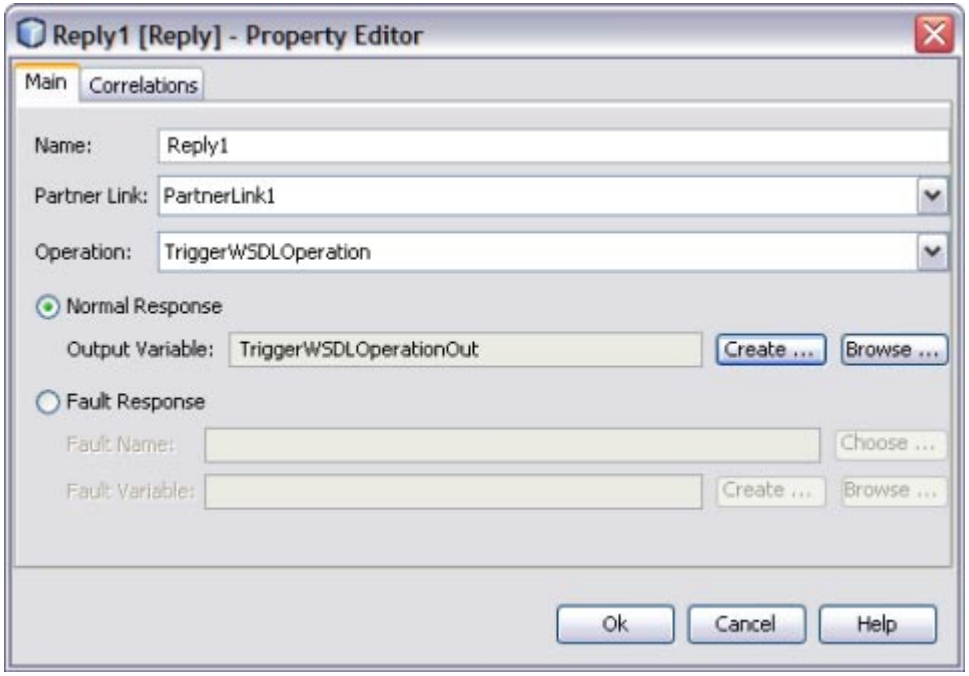
This opens the New Output Variable dialog box.



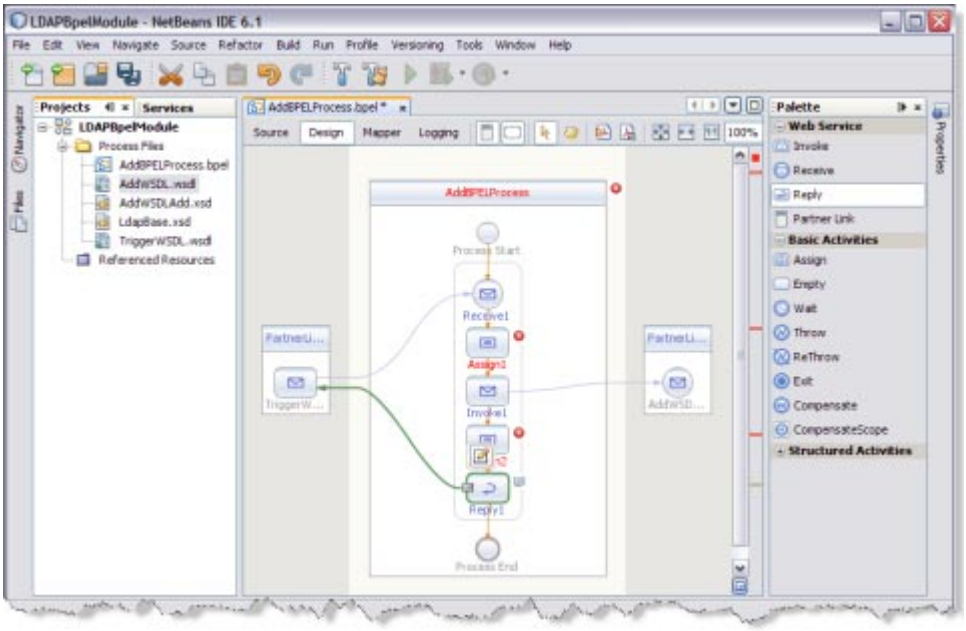
c. Change the value in the Name field. This is optional.

TriggerWSDLOperationOut is displayed, by default.

d. Click OK.



4 **Click OK to close the Reply1 [Reply] - Property Editor.**



▼ To Edit the Basic Activities: Assign1

1 **Double-click the Basic Activity: Assign1.**

This displays the BPEL Mapper window.

Note – Choose Window —> Other —> BPEL Mapper from the main menu if the BPEL Mapper window is not visible.

---

2 **Expand the node in the Source tree pane (the left pane) of the BPEL Mapper under Output —> Variables.**

A **Trigger1n** node appears under the **TriggerWSDLOperationIn** node.

3 **Expand the node in the Destination tree pane (the right pane) of the BPEL Mapper under Input —> Variables.**

A **request** node appears under the **AddWSDLAddOperationIn** node.

4 **Select the node in the Source tree pane. Drag the selection and map it to the node in the Destination tree pane.**

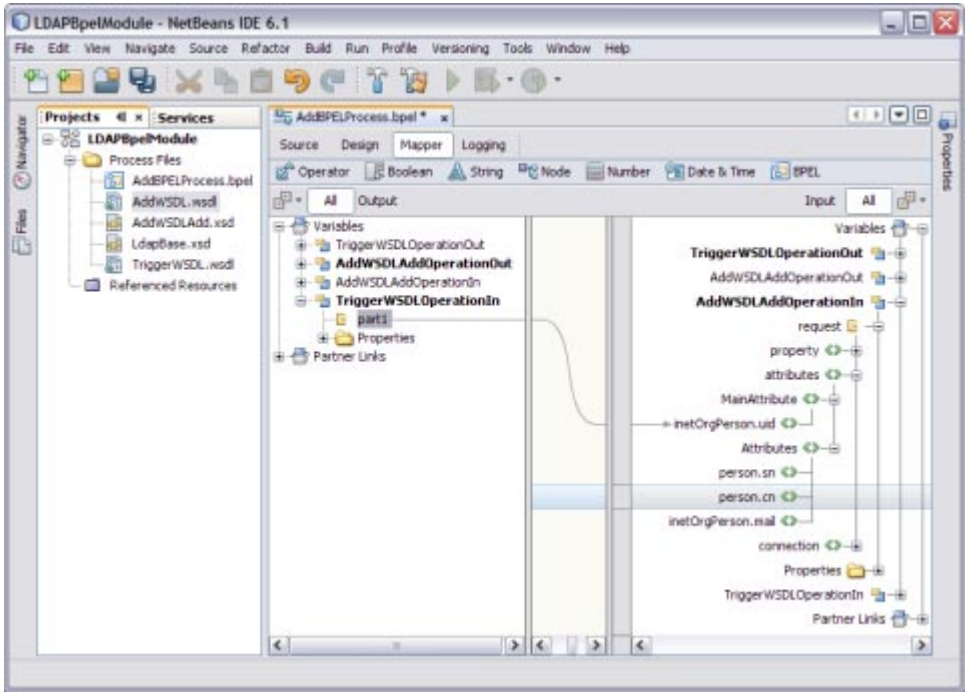
For example,

a. **Source tree pane: TriggerWSDLOperationIn — Trigger1n**

b. **Destination tree node: AddAddOperationIn — request — attributes — MainAttribute — inetOrgPerson.uid**

Map the following:

TriggerIn — inetOrgPerson.uid



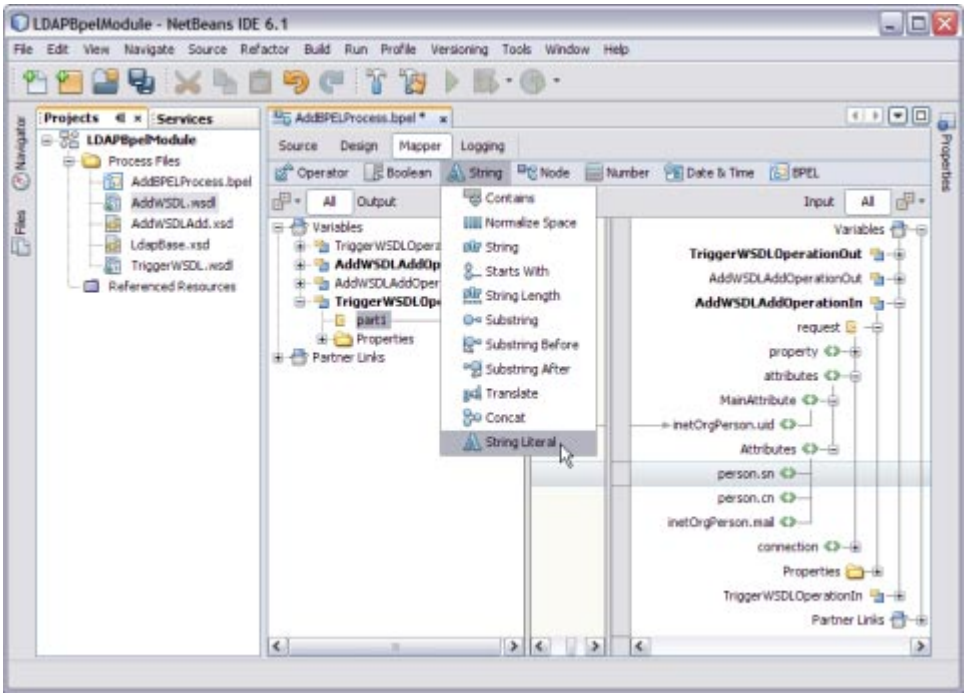
5 **Click Save All.**

6 **Expand the node in the Destination tree pane (the right pane) of the BPEL Mapper under Input —> Variables; for example, AddWSDLAddOperationIn.**

a. **Select request — attributes — Attributes**

i. **Select person.sn.**

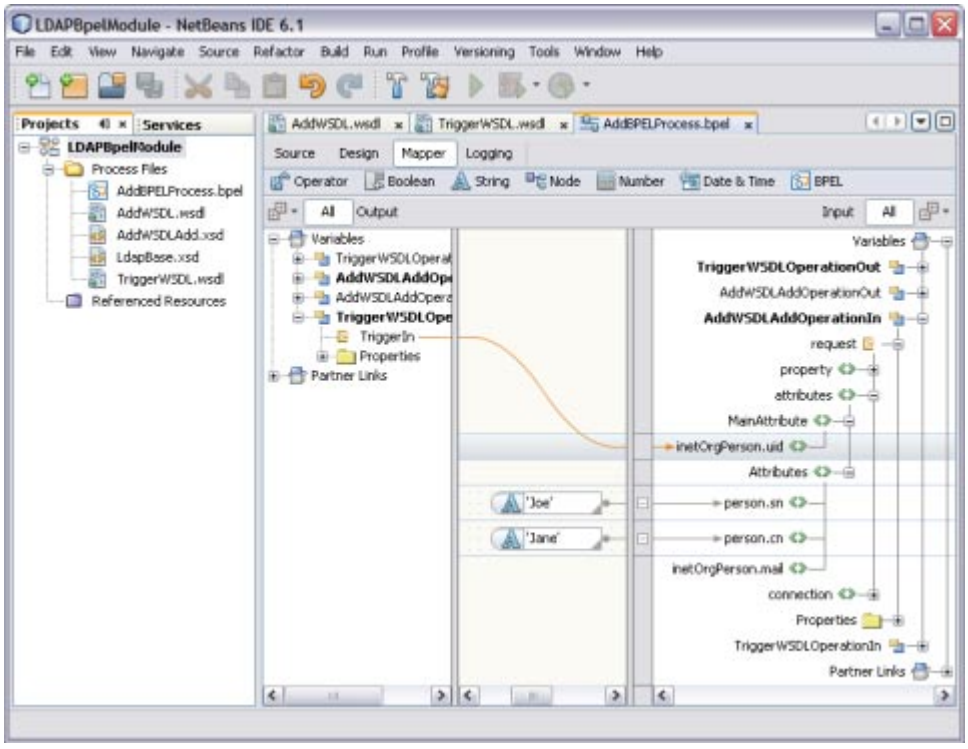
ii. Click String and select String Literal from the drop-down list.



iii. Enter the values in the String Literal and map the String Literal with person.sn.

For example, person.sn = Joe, where sn = surname and person.cn = Jane where cn = common name.

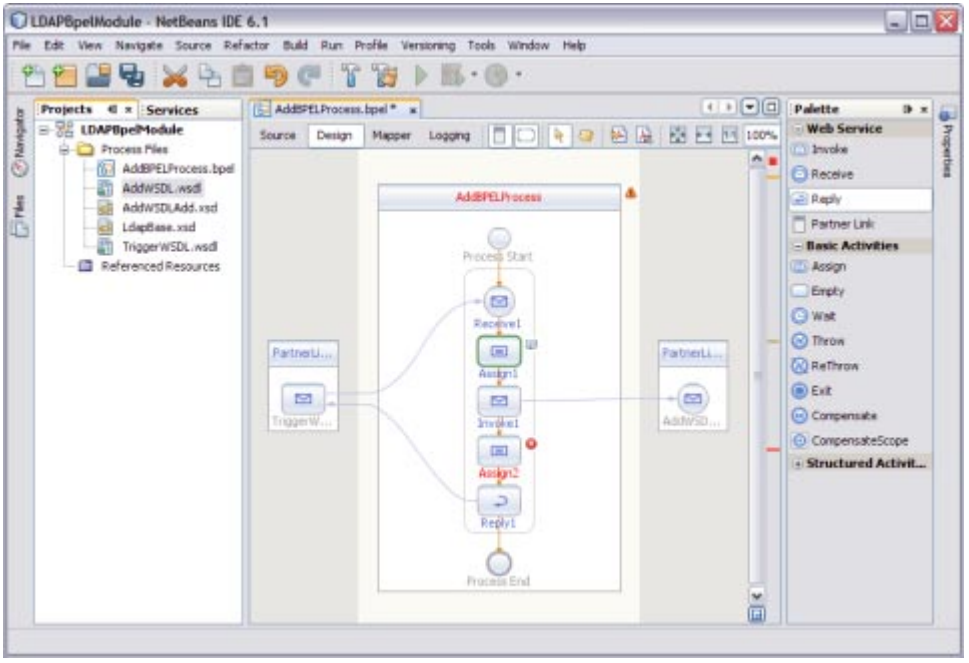
Note – Similarly, select person.cn and follow steps b and c.



7 **Click Save All.**

8 **Click the Design tab.**

Note – A red icon marked against Basic Activities — Assign1 is not shown.



To Edit the Basic Activities: Assign2

1 **Double-click the Basic Activity: Assign2.**

This displays the BPEL Mapper window.

Note – Choose Window —> Other —> BPEL Mapper from the main menu if the BPEL Mapper window is not visible.

---

2 **Expand the node in the Source tree pane (the left pane) of the BPEL Mapper under Output — Variables.**

You should see AddWSDLAddOperationOut.

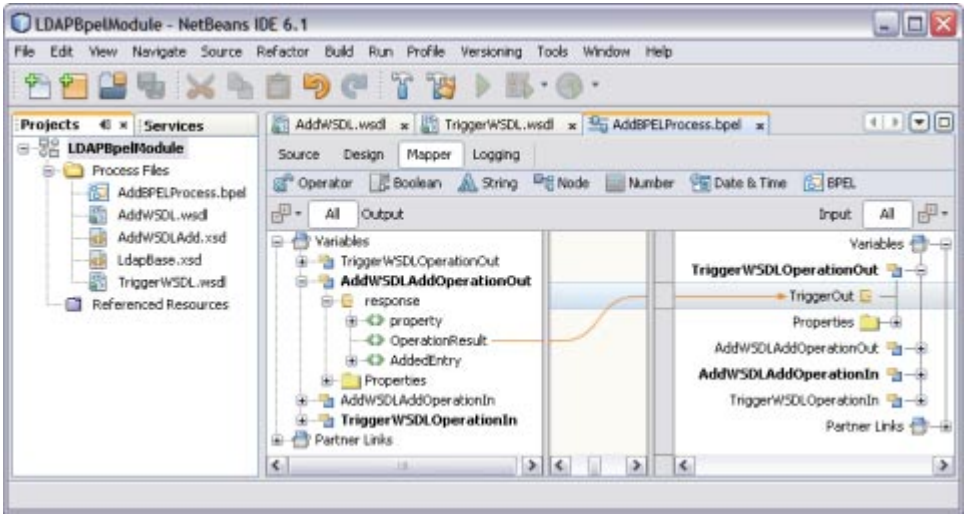
Expand response — OperationResult.

3 **Expand the node in the Source tree pane (the right pane) of the BPEL Mapper under Input — Variables.**

You should see TriggerWSDLOperationOut.

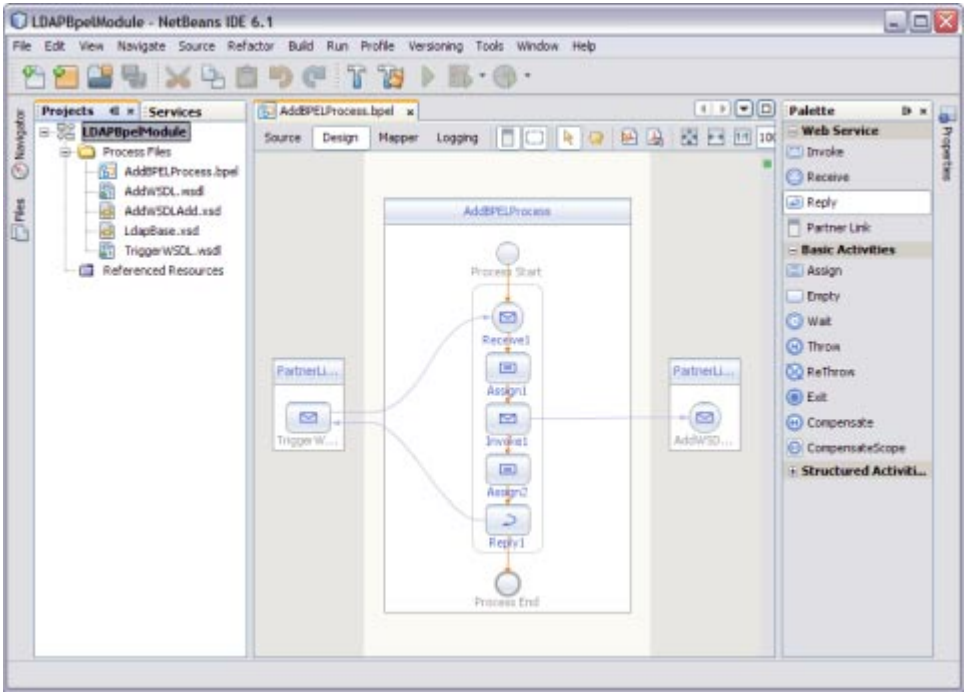
4 **Map OperationResult to TriggerOut.**

5 Click Save All.



6 Click the Design tab.

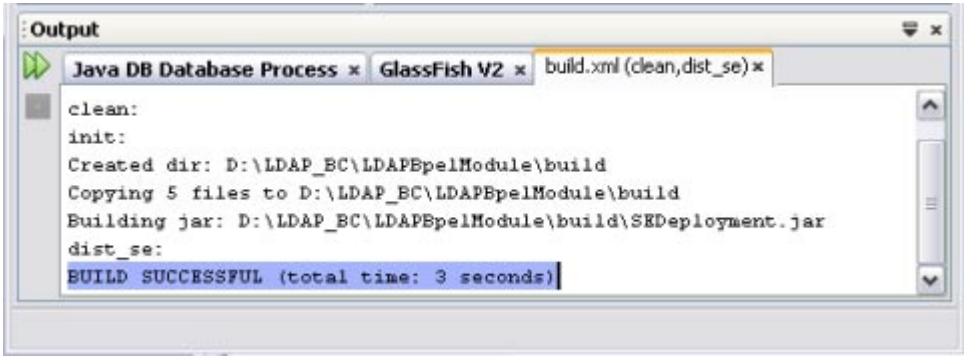
The final output is as shown in the illustration.



7 **Right-click the LDAPBpelModule BPEL Module and select Clean and Build.**

The following message appears.

```
BUILD SUCCESSFUL (total time: 3 seconds).
```



8 **Click Save All.**

Creating a Composite Application Project

Add the JBI module to the deployment project before deploying the BPEL Module project. Deploying the project makes the service assembly available to the application server. This allows its service units to execute their functionality.

▼ To Create a Composite Application Project

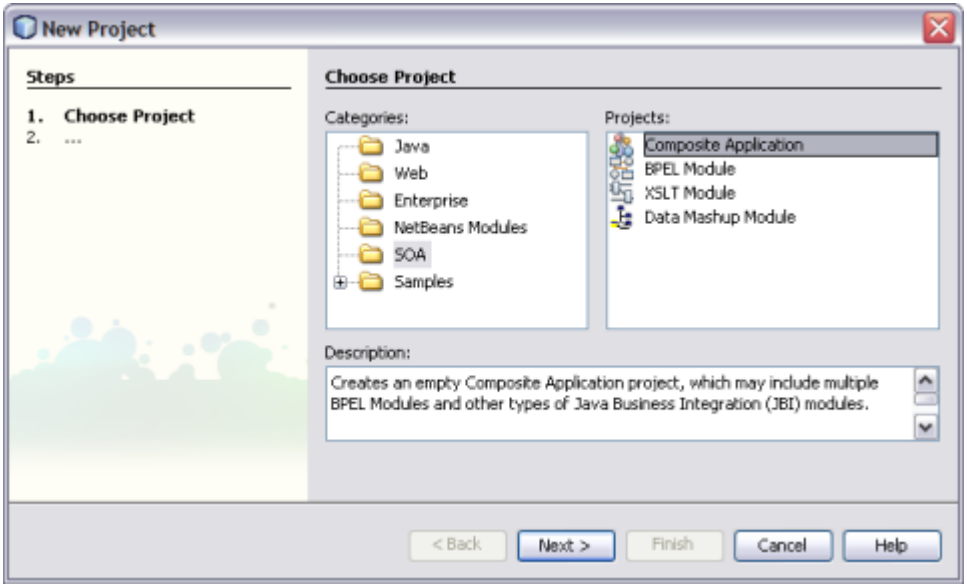
1 **Choose File —> New Project.**

This opens the New Project wizard.

2 **Select the SOA node from the Categories list.**

3 **Select the Composite Application node from the Projects list.**

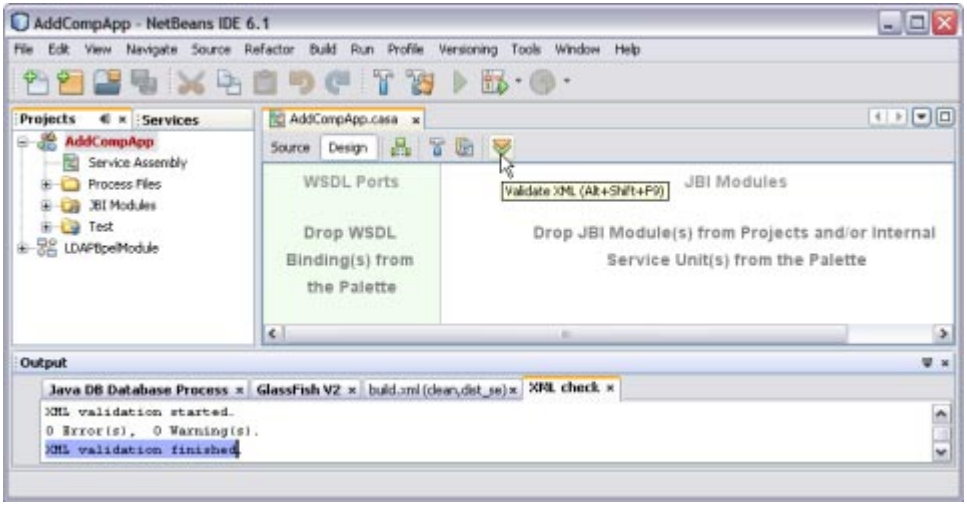
4 **Click Next.**



5 **In the Project Name field, enter `AddCompApp`.**

6 **Click Finish.**

The Projects window now contains a project node for a Composite Application project named AddCompApp.



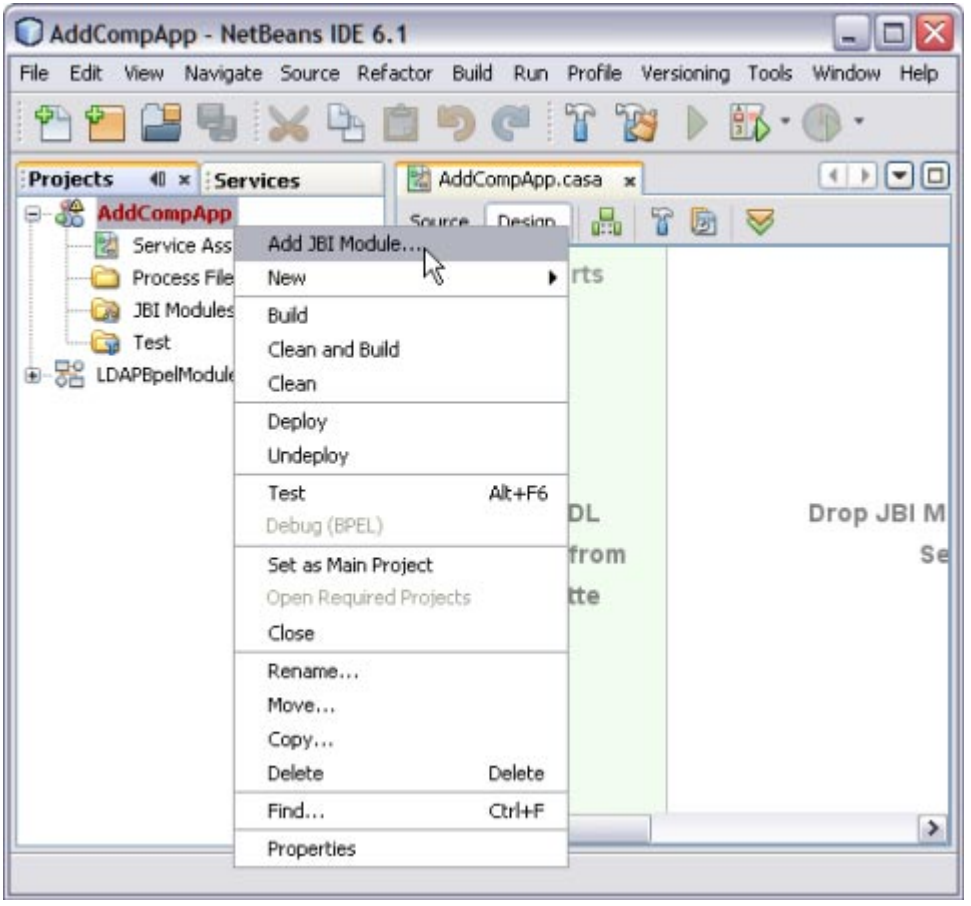
7 **Click the Validate XML button.**

This action invokes an XML check and displays the following message in the XML check console.

```
XML validation finished.
```

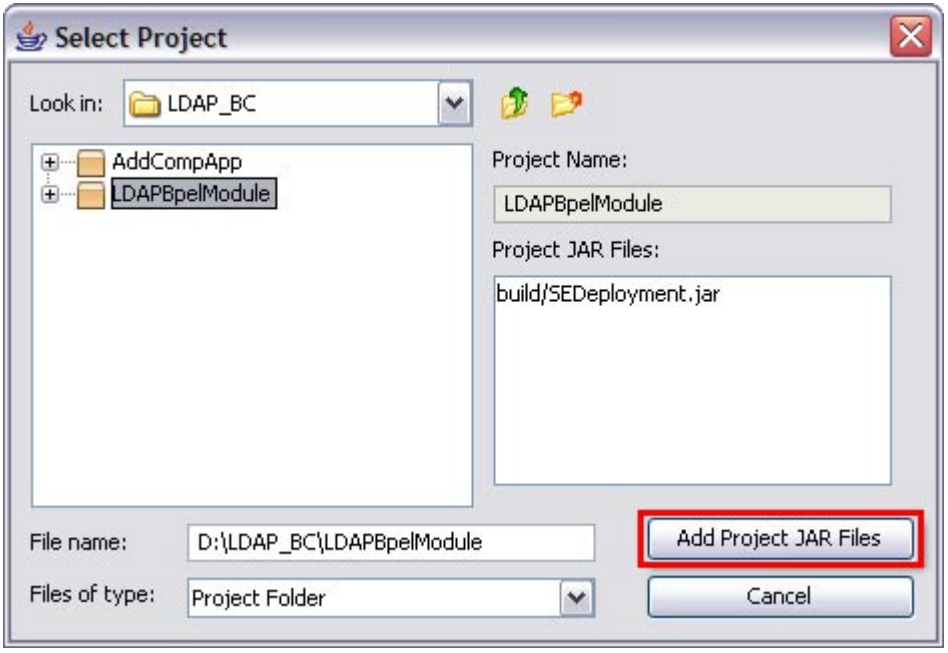
8 **Right-click either the AddCompApp Composite Application or the JBI Modules.**

9 **Select Add JBI Module.**

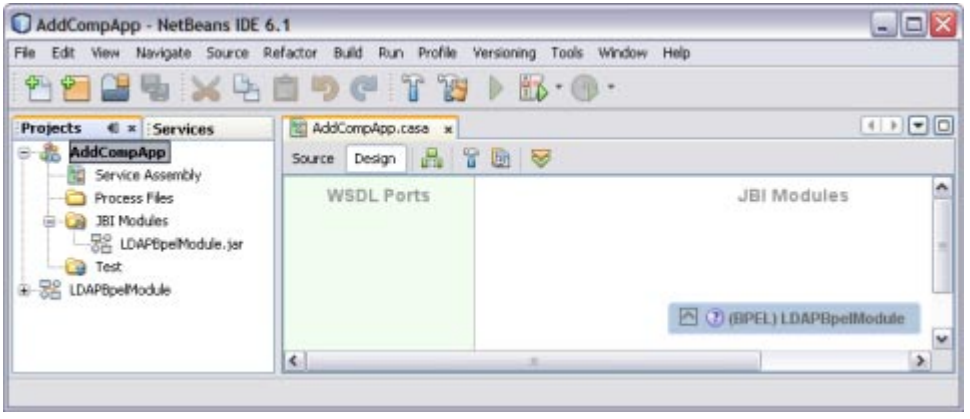


10 Select the LDAPBpelModule BPEL Module Project. Click Add Project JAR Files.

In the current example, the Project JAR file is `build/SEDeployment.jar`.



The JAR file is added and is as shown in the illustration.



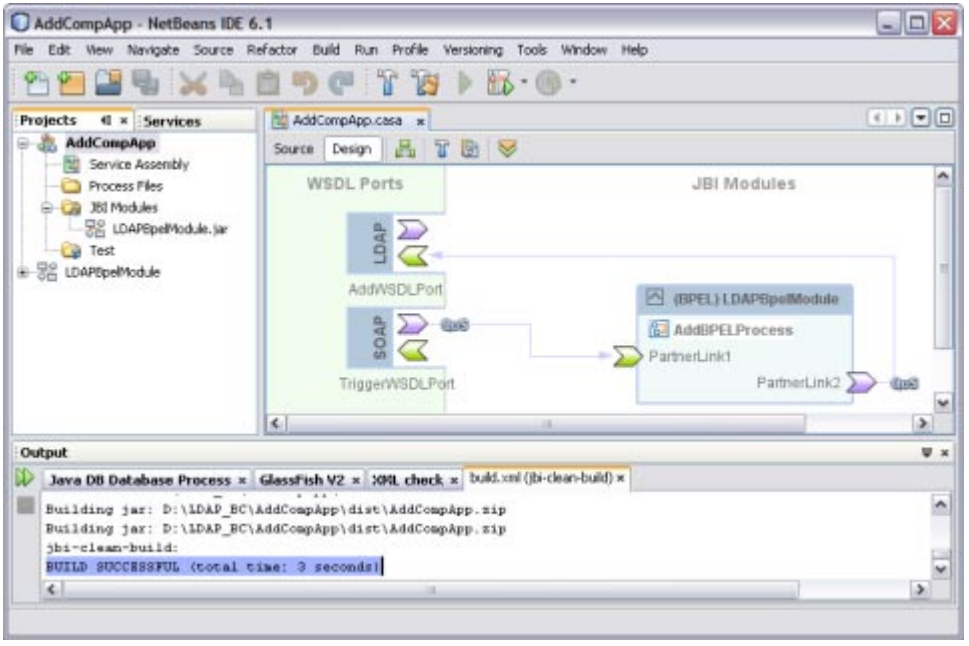
11 Click Save All.

Note – Ensure the following services are started.

- GlassFish Application Server
- JBI Binding Component (sun-ldap-binding)

12 Right-click the AddCompApp Composite Application node. Select Clean and Build.

The CASA Editor displays the build associated with AddCompApp.



A success message is displayed in the Output window:

```
BUILD SUCCESSFUL (total time: 3 seconds)
```

13 Click Save All.

Deploying a Composite Application

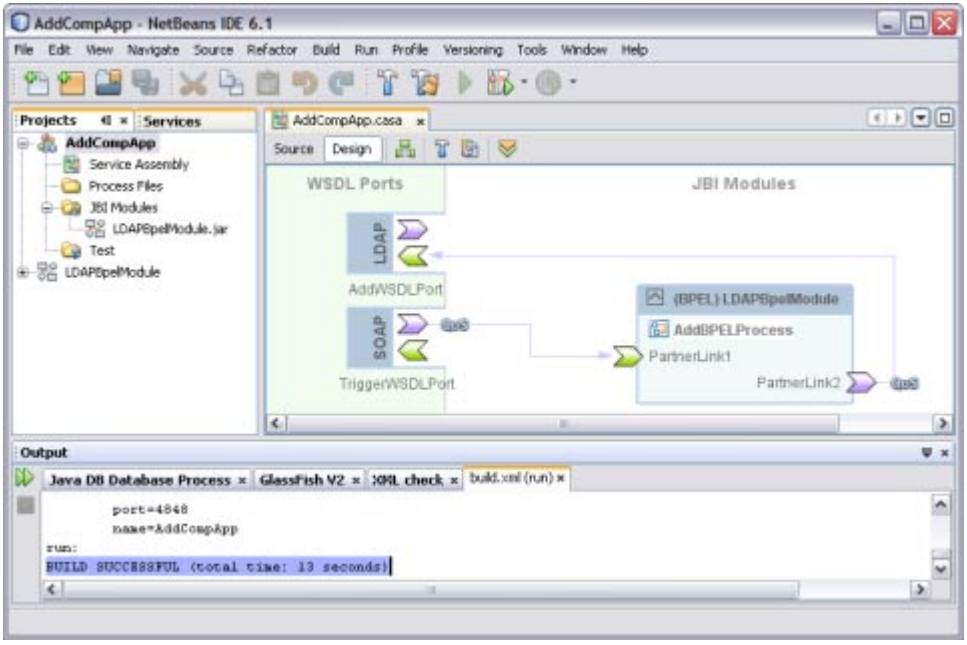
This section lists the procedure to deploy the composite application.

Tip – Start the GlassFish Application Server before deploying the project.

▼ To Deploy a Composite Application

1 **Right–click the AddCompApp Composite Application project node from the Projects tab.**

2 **Select Deploy.**



After successful deployment of the project the Output window displays the following message:

```
BUILD SUCCESSFUL (total time: 13 seconds).
```

Testing the Composite Application

This section lists the procedure to test the deployed application.

▼ To Test the Composite Application

1 **Expand the AddCompApp Composite Application project. Click Test.**

2 **Right-click to select New Test Case.**

3 **Enter the Test Case Name; for example, AddTest.**

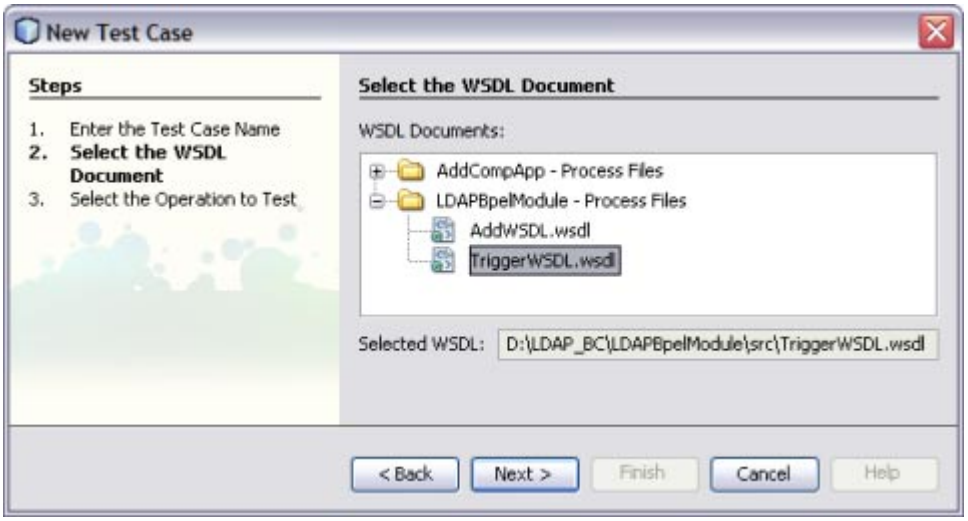
4 **Click Next.**

5 **Select the WSDL Document.**

a. **Select one WSDL Document from the BPEL Module.**

In the current example, the WSDL Document is `TriggerWSDL.wsdl` and the BPEL Module is LDAPBpelModule — Process Files.

Note – Select one WSDL Document.

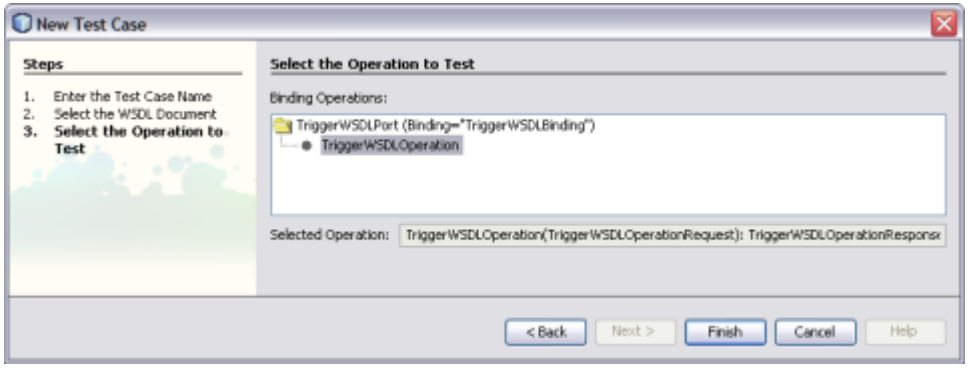


b. **Click Next.**

c. **Select one Operation to text file from the Process Files.**

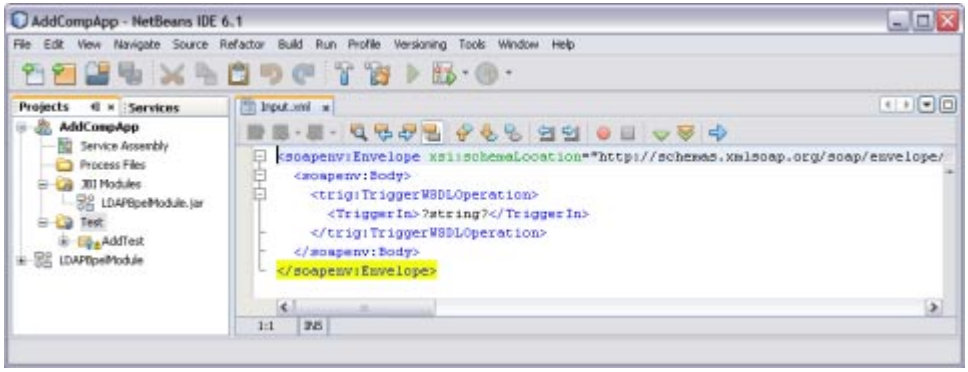
In the current example, the Operation to Text file is TriggerWSDLOperation and the Process File is TriggerWSDLPort (Binding=TriggerWSDLBinding).

Note – Select one Operation to Text file.



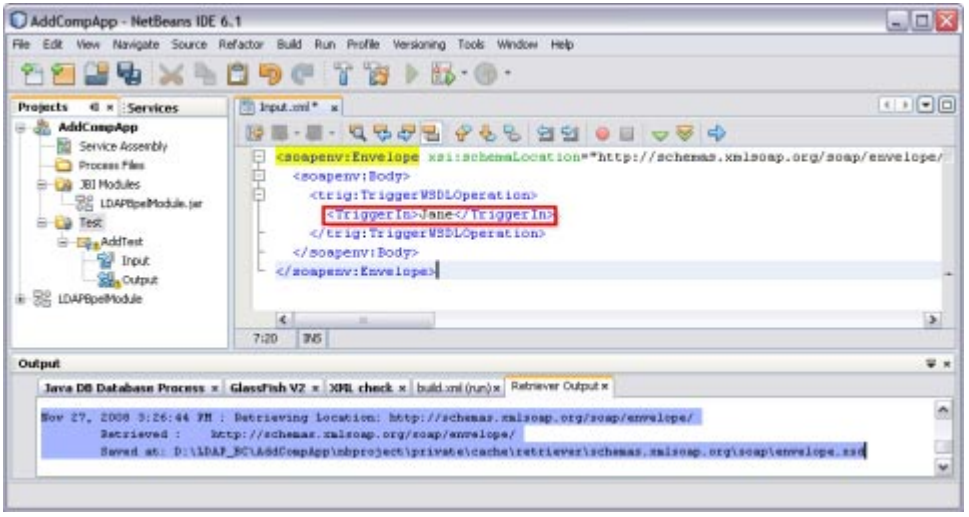
6 Click Finish.

This displays the Source code.



7 Enter the string value.

string = Jane



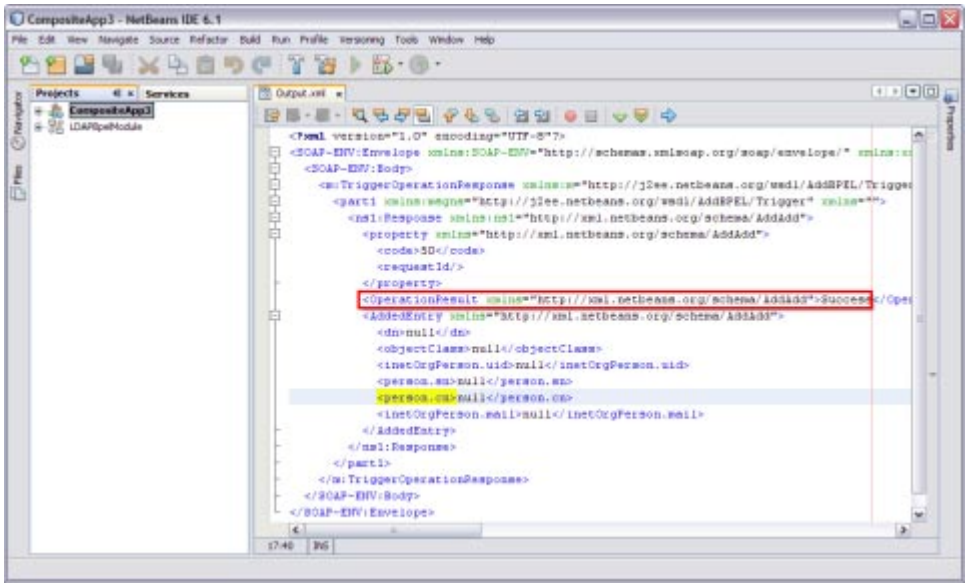
The Output console displays `Retrieve.xml` when you enter a string value in the `input.xml` window.

8 Right-click the Test Case and click Run.

A confirmation dialog box prompts to overwrite an existing Output.

9 **Click Yes.**

The Output is as shown in the illustration.



For a demonstration of the Add feature, visit the following URL:

`http://wiki.open-esb.java.net/Wiki.jsp?page=LDAPAddFeatureScreencast`

Source View

Right-click a node and choose Go To —> Source.

The Source view appears with the cursor positioned at the beginning or end of the component's block.

In the Source view, the underlying XML source code appears. You can directly edit the XML.

1. The top of the Source Editor has a tab for each open document. Each tab shows the name of the document.

   Note – If the document has been modified and has not been saved, then an asterisk (*) appears after the name. You can right-click a tab to access various commands.

2. A toolbar is located at the top of the Source Editor window.
3. Source code displayed in the Source Editor is syntactically colored.

4. The Source Editor status line is located beneath the horizontal scroll bar. To toggle between insert mode and overwrite mode, use the Insert key.

Design View: Notification

The Design view displays the results of both real-time and explicit validation in call-out windows on the diagram and the error stripe.

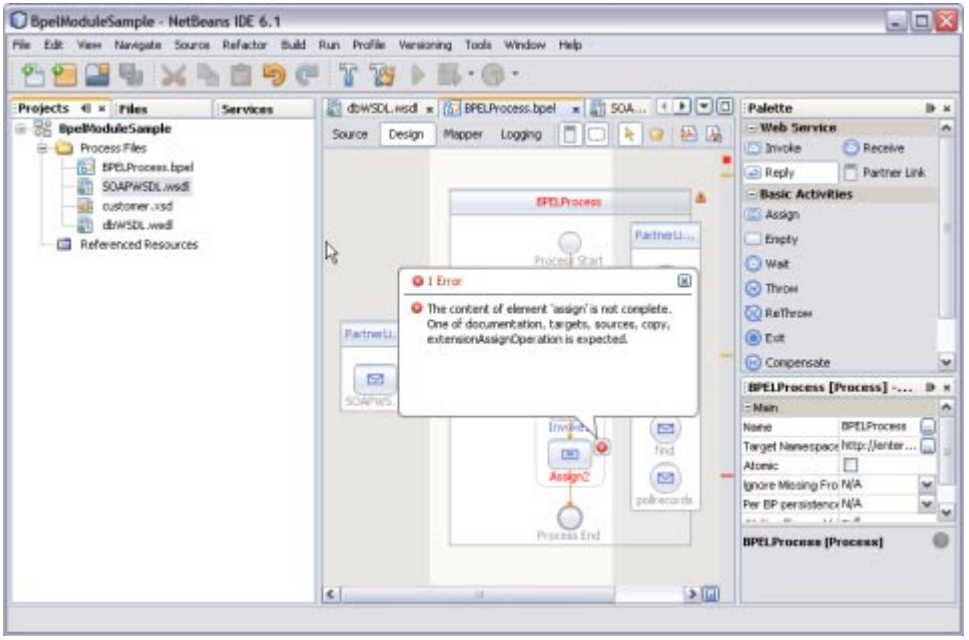
In the illustration,

Note – A red cross next to an element on the diagram means that the element has not passed validation and the output contains errors.

A yellow triangle with an exclamation mark means that the element has not passed validation and the output contains warnings.

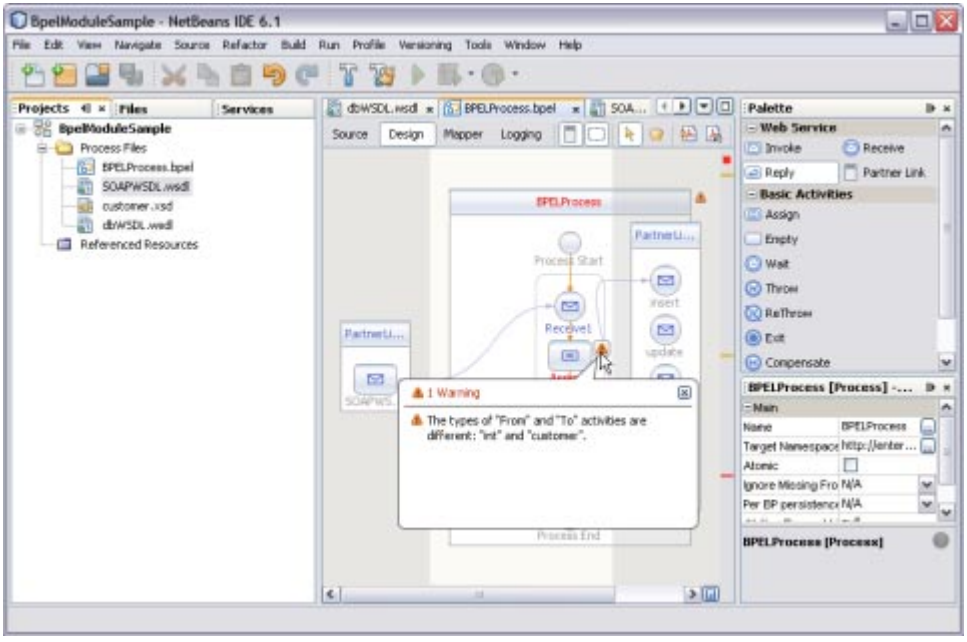
A red cross in the Design view means there are both errors and warnings.

If you click the cross or the triangle, a call-out window lists errors and warnings.



The call-out window displays messages related to validation in accordance with the criteria listed above. Messages related to real-time validation are constantly updated.

In the Design view, the error stripe displays the validation results. The error stripe is a strip to the right of the scroll bar that contains red marks if some elements have not passed validation. The error stripe represents the entire diagram, not just the portion that is currently displayed. This stripe helps users to immediately detect any errors in the BPEL process without having to scroll through the entire diagram. Click a red mark to jump to the element that causes problems. If no errors are detected, the small square in the error stripe is green.



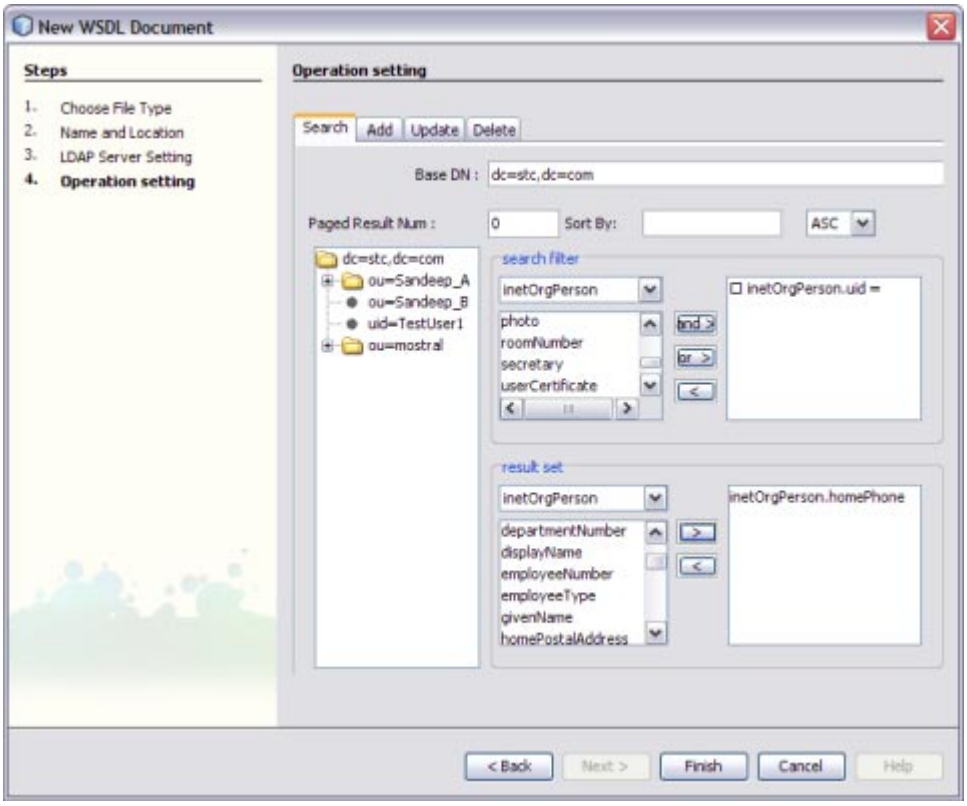
Create a WSDL Document: Search

In this section, the user sets to search using the search filter. The input for the uid is provided from the HTTP/SOAP WSDL and the response is routed to the SOAP reply.

For steps, see the following links:

1. "Creating a WSDL Document" on page 17.
2. "Create a WSDL Document For Type: SOAP" on page 26.
   a. **Click the Search tab.**

      In the current example, the selected Object Class is inetOrgPerson.



Search Filter

i. **Select Search Filter — inetOrgPerson from the drop-down list.**

ii. **Select uid from the Search Filter list.**

iii. **Click the > arrow.**

inetOrgPerson.uid = is moved to the right pane.

Result Set

Tip – Entries with respect to inetOrgPerson are populated both in the Search Filter and Result set.

---

i. **Select Result Set — homePhone from the drop-down list.**

ii. **Click > arrow to move the selected entry to the right pane.**

b. **Click Finish.**

3. "Creating a BPEL Process" on page 31.
4. "Creating a Composite Application Project" on page 52.
5. "Deploying a Composite Application" on page 56.
6. "Testing the Composite Application" on page 57.

For a demonstration of Search, visit the following URL:

```
http://wiki.open-esb.java.net/Wiki.jsp?page=LDAPSearchFeatureScreencast
```

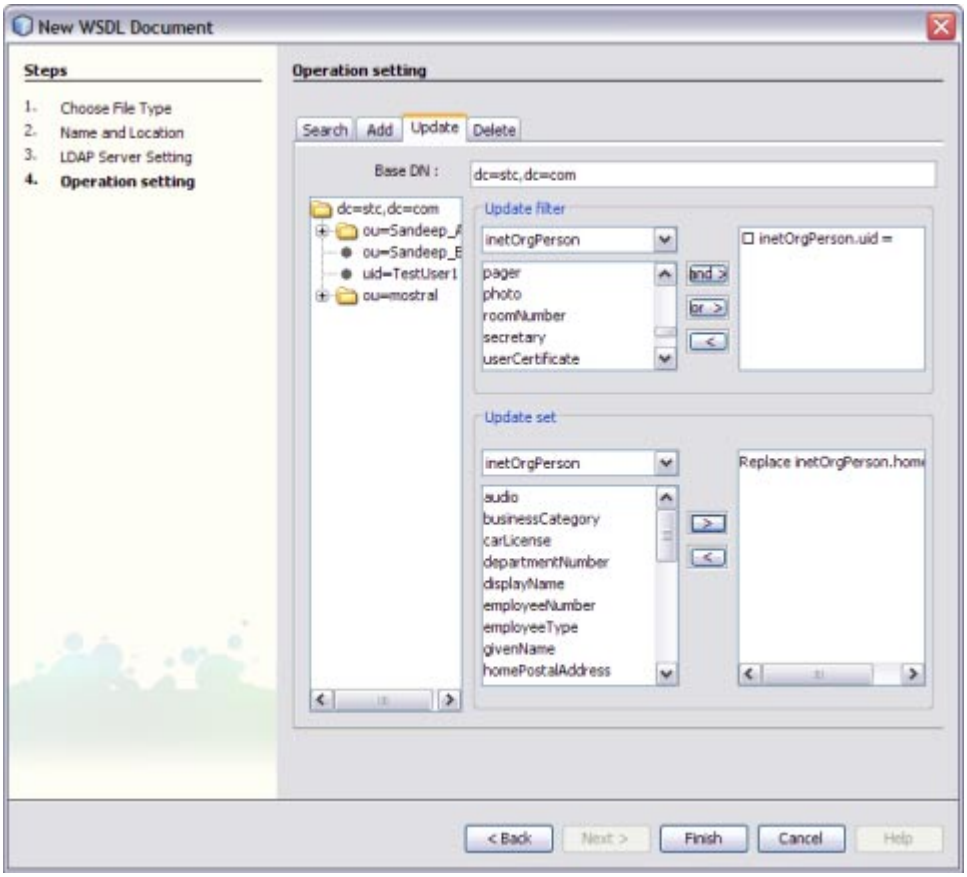
Create a WSDL Document: Update Feature

In this section, you configure the project to use the Update feature.

For steps, see the following links:

1. "Creating a WSDL Document" on page 17.
2. "Create a WSDL Document For Type: SOAP" on page 26.
   a. **Click the Update tab.**

      In the current example, the selected Object Class is inetOrgPerson.



Update Filter

i. **Select Update Filter — inetOrgPerson from the drop-down list.**

ii. **Select uid from the Update Filter list.**

iii. **Click the > arrow.**

inetOrgPerson.uid = is moved to the right pane.

Update Set

Tip – Entries with respect to inetOrgPerson are populated both in the Update Filter and Update set.

---

i. **Select Update Set — homePhone from the drop-down list.**

ii. **Click > arrow to move the selected entry to the right pane.**

b. **Click Finish.**

3. "Creating a BPEL Process" on page 31.
4. "Creating a Composite Application Project" on page 52.
5. "Deploying a Composite Application" on page 56.
6. "Testing the Composite Application" on page 57.

For a demonstration of the Update feature, visit the following URL:

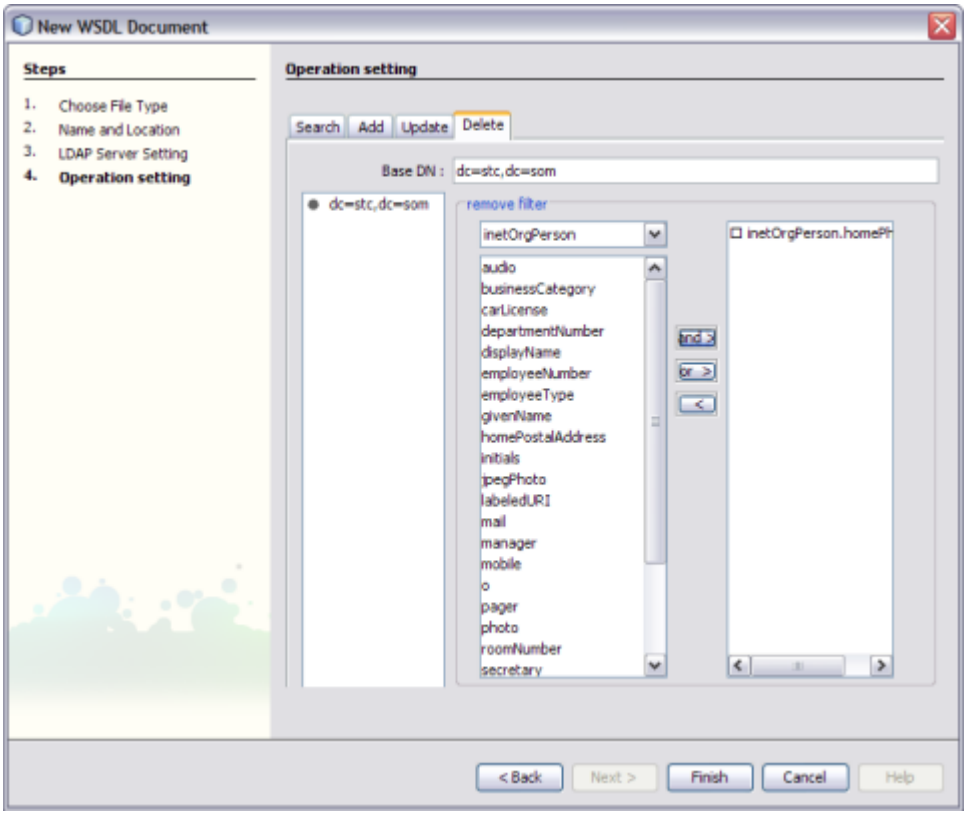
```
http://wiki.open-esb.java.net/Wiki.jsp?page=LDAPUpdateFeatureScreencast
```

Create a WSDL Document: Delete Feature

In this section, configure the project to use the Delete feature. For instructions , see the following links:

1. "Creating a WSDL Document" on page 17.
2. "Create a WSDL Document For Type: SOAP" on page 26.
   a. **Click the Delete tab.**

      In the current example, the selected Object Class is inetOrgPerson.



Remove Filter

i. **Select Remove Filter — inetOrgPerson from the drop-down list.**
ii. **Select the entry from the Remove Filter list; for example, select uid.**
iii. **Click the right arrow.**
iv. **inetOrgPerson.uid = is moved to the right pane.**

b. **Click Finish.**

3. "Creating a BPEL Process" on page 31.
4. "Creating a Composite Application Project" on page 52.
5. "Deploying a Composite Application" on page 56.
6. "Testing the Composite Application" on page 57.